[redacted]

TRANSPORTATION

TERA AND ECONOMIC RESEARCH ASSOCIATES, INC.

2849 MEADOW VIEW RD., FALLS CHURCH, VA. 22042
(703) 698-7400

SAGINAW RIVER PORT
DEVELOPMENT STUDY
PHASE II REPORT

Submitted to:

Bay County Planning Division
912 N. Adams Street
Bay City, Michigan 48706

September 20, 1980

Prepared by:

Transportation and Economic Research Associates, Inc.
2849 Meadow View Road
Falls Church, Virginia 22042
(703) 698-7400

and

Johnson, Johnson & Roy/inc.
303 North Main Street
Ann Arbor, Michigan 48104
(313) 662-4457

This report was funded in part through financial assistance provided by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, United States Department of Commerce, through funds provided under the Coastal Zone Management Act of 1972 (PL 92-583); and administered by the Michigan Department of Natural Resources Division of Land Resources Programs.

TRANSPORTATION
TERA AND ECONOMIC RESEARCH ASSOCIATES, INC.
WASHINGTON, D.C. • LOS ANGELES • OAK RIDGE

September 20, 1980

Mr. Lawrence C. Hall, Head
Bay County Planning Division
912 North Adams Street
Bay City, Michigan 48706

Dear Mr. Hall:

We are pleased to transmit herewith the Phase II final report of the Saginaw River Port Development Study, prepared by TERA, Inc. in association with Johnson, Johnson & Roy/inc.

The purpose of Phase II is to provide an implementation plan to address port development opportunities and problems that were identified in Phase I. Accordingly, this report analyzes institutional arrangements and specific priority programs and projects for development of the Saginaw resource.

The study was designed to produce a balanced development plan that recognizes the needs of recreational and commercial interests. The need to translate that plan into action is equally important. We believe our implementation plan is realistic and consistent with the needs to manage and develop the Saginaw, and action is indeed justified.

Sincerely,

Asil Gezen, Ph.D.
President

AG/cw

Encl.

2849 MEADOW VIEW ROAD • FALLS CHURCH, VIRGINIA 22042 • (703) 698-7400

TABLE OF CONTENTS

LIST OF FIGURES/MAPS

LIST OF TABLES

INTRODUCTION

The purpose of Phase I of this study was to determine the long-term needs for commercial, industrial and recreational uses of the Saginaw River, and to provide an integrated development plan with an appropriate balance of commercial and recreational uses.

The plan includes a number of recommendations related to improvement of navigation channels, development of commercial and recreational facilities, and coordination of these three efforts. The needs identified for priority attention in Phase II were the channel project, and commercial development. The pertinent Phase I recommendations were as follows:

Channel Project

- An acquisition program to provide a site for a new dredged material disposal area for river maintenance dredging should be initiated promptly. This should be part of a continuing program to identify and provide spoil disposal areas for future bay and river maintenance and improvement dredging.

- Advocacy of Federal Project improvements is needed in order to assure the benefits of deeper channels. An immediate request for official study of the improvements identified in this study should be forwarded to the Corps of Engineers.

- A formal port organization is needed to provide project advocacy and initiative, and liaison between the Federal and local interests. The port organization/port project sponsors should be Bay, Saginaw and Midland counties.

Commercial Development

- Any significant new investment in marine terminal facilities, if needed, should be made along the

lower reach of the river, Bay City/Grand Trunk Western Bridge to Bangor/Essexville, because of the transportation economies from deeper water and better prospects for continued channel maintenance and improvement there.

- A feasibility study of incremental channel deepening is recommended, along with more detailed economic feasibility studies of the new terminal facilities this study has identified as needed. Specifically, an export grain elevator, and a dry bulk materials terminal or terminals for feed exports and/or fertilizer receipts.

- Promotional efforts are needed to assure construction of new marine terminal facilities, and better utilization of existing facilities. The port organization needed for Port Project sponsorship would be equally valuable in port development. It should be created promptly.

The Phase II analysis in subsequent chapters addresses these needs in terms of:

(1) Management - the institutional arrangements consistent with multi-use management and development of the river resource.

(2) Programs - the development initiatives that involve a series of goals and require a continuous ongoing effort, with specific reference to commercial development.

(3) Projects - the development efforts that involve a specific identifiable goal. In this case, the provision of additional port facilities to develop port commerce.

I. SUMMARY AND CONCLUSIONS

Approximately half of the following report is devoted to the chapter on Port Development Management. This is an appropriate weighting in view of the importance of managing the Saginaw resource. An organized approach to the Port Development Programs and Port Development Projects covered in subsequent chapters is essential to assure positive results.

The review of port management systems and options recognizes the unique role played by Michigan state agencies in providing port administrative and development services. The study's conclusion is that this arrangement reduces the role of local port agencies, but does not eliminate the need for them. Instead, this should be viewed as an opportunity to obtain the benefits of local initiative at minimum cost. The review also noted that the local perception of the need for a port agency varies widely, and it is unlikely that any one of the port management options would meet immediate, universal approval.

Recognizing both needs and realities, this study has recommended that initially a bi-county Port Commission be created by Bay and Saginaw counties as a "minimum management" minimal cost administrative device to provide coordination in the separate exercise of planning and regulatory powers of the two directly related governments. The study also recommended that the Port Commission use the resources of the existing planning organizations for administrative services as needed, in order to provide expertise most economically, and a basis for continuing inter-county cooperation and perspective.

For the long run, the study has recommended the creation of a tri-county Port Authority by Bay, Saginaw and Midland Counties. As shown, the benefits of the authority organization are numerous, particularly for developmental programs and projects. The role and budget of the port authority can be sized to meet the requirements of the Saginaw's ports. The study also recommends a program for use before or after creation of the Port Commission that include a comprehensive determination of port economic benefits, and the establishment of formal liaison with the ports' business community.

The Port Development Programs addressed in this study are the Port Project, Spoil Disposal and Port Promotion. They are all activities that require coordinated, continuing local efforts.

As suggested by the Phase I Study, and at the initiative and request of the Bay County Commission, the Corps of Engineers has included the Saginaw in a current study of channel improvements for Great Lakes Harbors. This timely action saved several years of effort typically required to initiate an independent offical study. To take advantage of this opportunity, timely action is needed to determine the priorities of local interests and present these to the Corps via an update of the relevant sections of the Saginaw River Port Development Study. The substance of these recommendations will be quite different, depending on whether they represent Bay County interests only, or all river interests.

There is another Corps of Engineers study under way to determine the location of a dredged material disposal facility to serve up-river dredging. The consultant team

submitted to the Corps the site identified in Phase I of this study as the best and most economical long run solution for spoil disposal up-river. Currently unutilized, the site is also a candidate for inclusion in the expanded Crow Island State Game Area. This site may be the last opportunity to provide economical spoil disposal for the Saginaw area. Spoil disposal requirements will continue there, with or without channel deepening, unless dredging is discontinued. As in the case of channel improvements, a question of local priorities is involved. The choice of the consultant team would be to pursue use of the property. The study recommendation is immediate action by Saginaw County.

The initial proposal of the consultant team for an arrangement to reactivate the Dow Chemical/Bay City Seaway Terminal as a public marine terminal was not attractive to the owner. There was agreement that it would be desirable to preserve the public terminal use of this facility consistent with the owner's needs, to provide a way to build up the port's miscellaneous or general cargo traffic. A continued effort will be needed to locate a suitable operator and/or the requisite cargos to utilize this facility for trade development.

The Port Development Projects evaluated in the final chapter were an export grain elevator, and a multi-purpose bulk terminal. The conceptual designs indicated that these facilities would be physically feasible, compatible with adjacent land uses, and consistent with better utilization of the waterfront. With an estimated employment of 50 new, full-time jobs, the facilities would provide significant economic benefits and transportation

cost savings. The economic analysis indicated the elevator might be a marginally viable independent enterprise, and that except as an integral part of a proprietary distribution system, the bulk terminal would not be.

This report does not find that these projects are impossible, just difficult. The facility concepts should be used as a sales tool to find the combination of public and private enterprise that will make these facilities viable. Based on the indicated demand in Phase I and the fact that elevators and bulk plants are being built at other ports, the analyses should not be used to dismiss the potential of port development on the Saginaw. It is evidence that port development requires a multi-year sustained effort.

II. PORT DEVELOPMENT MANAGEMENT

Background

The commercial ports of Michigan handle over 90 million tons of waterborne commerce annually. In terms of tons, the state ranks first in the Great Lakes area, and sixth in the nation in the importance of its ports.[1] Although Michigan enabling legislation has provided for the establishment of special purpose governmental units to administer and develop its ports since 1925, only a handful have been created.[2] The state has recognized the importance of waterborne transportation, and is one of the few to dedicate significant support for that mode via a state DOT. Overall, however, states with far less waterborne commerce than Michigan, as well as those ranking above it, have much more elaborate institutional arrangements to support their ports' development.

Some of the reasons for the notable absence of local port administrations in Michigan are:

- An abundance of natural harbors that eliminated the need for extensive channel improvements at most ports, at least until commerce was well established - unlike Texas ports.

---

[1] 1977 tonnages in millions: Texas - 309.1, Louisiana - 258.8, New York - 212.7, California - 112.9, Pennsylvania - 109.0, Michigan - 91.8. From Corps of Engineers' Waterborne Commerce of the U.S.

[2] Port Districts: Monroe and Detroit;
Port Commissions: Benton Harbor, Ludington, Manistee, Muskegon.

- The predominance of large volume shipments of bulk materials, and the related propensity for private enterprise to provide needed port facilities - unlike many tidewater ports.

- The arrangement unique to Michigan, whereby the Michigan State Waterways Commission acts in behalf of local interests in providing assurances of cooperation required for Corps of Engineers dredging.

In brief, there is a high degree of homogeneity among the major users of Michigan ports - a relatively limited number of firms who compete with or sell to each other, but are at least acquainted - and a minimum of problems. As a result, most port problems have been addressed on a cooperative, ad hoc basis. There hasn't been a need for the number of formal port organizations that exist elsewhere.

The management of the Saginaw has been typical of Michigan practice. Historically the initiative for channel improvements has been provided by the U.S. Corps of Engineers. The Corps-established pierhead and bulkhead lines, and the Corps-administered permit system in combination with state permits, provides some administrative control. As needed, albeit not always promptly, Bay City and Bay County have provided the local cooperation assurances required in connection with Corps dredging - either directly or via the Waterways Commission.

These local assurances principally involved spoil disposal areas, and the siting of the Saginaw Bay Diked Disposal Facility involved a classic cooperative effort by port users. A more unusual and earlier demonstration of ad hoc cooperation was the voluntary assessment scheme agreed to by port users, to pay the cost of reinforcing the New York Central bridge over the Saginaw to provide for channel improvements.

In the case of the Saginaw Bay Diked Facility, Bay County's Port Coordinator played a key part in organizing the cooperation. In the case of the bridge rebuilding, the state worked directly with port users.

An honest assessment of the management of Michigan ports in general, and the Saginaw in particular, has to recognize that the system works reasonably well in resolving problems and at a minimum cost. Its weakness is that it does not provide for local initative in addressing either problems or opportunities. Its dependence on state and federal agencies precludes its effective use as a local development resource.

Phase I of the study identified the need for local initiative in addressing several problems and opportunities. This analysis is to identify the form of port administration that can do this economically and effectively, and complement the existing agencies of government.

Management Options

Every U.S. maritime state has provided for some type of agency to develop, own or operate its ports. The predominant form of administration is shown in Table II-1. Where the state has a secondary system, it is indicated by an asterisk. Tidewater states are listed geographically followed by Great Lakes and riverport states in alphabetical order.

Michigan has just two port districts, Monroe and Detroit, with the broad powers comparable to the local authorities that are the predominant port administrative system in most states. By contrast Washington state has the most local authorities, 57, with Texas second with 18. In neighboring

TABLE II-1

U.S. PORT ADMINISTRATION SYSTEMS BY STATE

State	State DOT	Port Authorities		City/County Port Depts.
		State	Local	
Maine	X			
New Hampshire		X		
Massachusetts			X	
Rhode Island			X	
Connecticut		(1)		
New York			X	
New Jersey			X	
Pennsylvania			X	
Delaware				X
Maryland	X		(*)	
Virginia		X		(*)
North Carolina		X		
South Carolina		X		
Georgia		X		
Florida			X	
Alabama		X		
Mississippi			X	
Louisiana			X	
Texas			X	
California			(*)	X
Oregon			X(2)	
Washington			X	
Alaska	(3)			X
Hawaii	X			
Illinois			X(4)	
Indiana		X		
Michigan	(3)		X	
Minnesota			X	
Wisconsin			X	
Arkansas			X	
Iowa	(3)			
Kentucky			X	
Missouri	(3)		X	
Tennessee			X	
West Virginia			X	

Notes: (1) State-owned pier at New London. Connecticut Dept. of Commerce acts as statewide ports coordinator.
(2) Oregon Dept. of Economic Development acts as statewide ports coordinator.
(3) State Dept. of Transportation acts as statewide ports coordinator.
(4) Illinois Dept. of Transportation provides financial assistance. Dept. of Business and Economic Development assists port promotion.

Source: TERA, Inc.

states, Ohio has 13 local authorities and Indiana has a state authority operating multiple ports.

As indicated by Table II-1, most of the states that have opted for a centralized system - state authority, DOT, or in the case of Alabama, state docks department - have only one dominant port in the state. Where the state has more than one major port, the centralized system is often perceived as favoring one port over the other - as in Virginia, and to a lesser extent the Carolinas and Georgia. This could present a problem in Michigan also, if the port-related programs of the Department of Natural Resources and Department of Transportation were centralized in a single strong port development agency.

The various institutional arrangements that could be applied to management of the Saginaw are:

State Government. Any inventory of management options has to include the existing state agencies. They are, as noted earlier, very effective in providing the basic services that would otherwise be required of a local port agency. To that extent, the need for a local port agency is diminished. The need is not eliminated, because: (1) at some point these state agencies have to interact with local interests in providing the services they do provide, and (2) most planning and development activities require local initiative. Planning guidelines are passed down from the state level, but planning and implementation have been from the bottom up, by mutual choice.

Were the State of Michigan to centralize its port-related programs in a single, strong development-oriented

agency, the need for a local agency would be virtually nil. In the case of the Saginaw, this could be advantageous in treating the whole river as a resource. The philosophy underlying Michigan's port-related legislation is not in this direction however, and the inherent problems in applying centralized control to the Michigan port system virtually preclude this as a possibility.

Municipal Government. There is considerable precedent for municipal port management, not only on the Saginaw but elsewhere in the U.S. The responsibilities of port management can be assigned to existing units of city government, in whole or in part, or port departments, commissions, or port administrative positions created, under the general or special powers available to municipalities.

Where the responsibilities have been assigned, the Department of Public Works or its equivalent, has frequently been the repository for these responsibilities. In Connecticut, which has the double distinction of not having county governments nor any provision for either state or local port agencies, each port has a "Harbormaster," typically someone in the public works department. The assumption of certain port responsibilities by Bay City's Director of Community Development has considerable logic, but it is a practice rarely followed elsewhere. The best examples of specific departments created to handle the full range of port managmeent responsibilities are at Los Angeles and Long Beach. Significantly, both these "harbor departments" have financial independence; they are almost indistinguishable from "port authorities."

A number of communities on the Saginaw do operate waterfront facilities now - for recreation purposes. In

the distant past almost every port city provided a public wharf or wharves. The trend for many years, however, has been away from city participation in port management; there is too much competition from other municipal services for the available funds and management talent. As two competing harbor departments on the same waterway, Los Angeles and Long Beach have been highly successful. Although two port agencies might be better than none, the Saginaw does not offer the opportunities to support duplication of effort, and the need for coordination is relatively greater.

County Government. There is limited precedent for county governments that participate directly in port management by way of dedicated personnel or departments. Partly this is because most ports are also within some municipal jurisdiction. The Bay County Port Coordinator position was unusual. There is a growing trend for counties to be involved in port management indirectly, via countywide or city/county port authorities or commissions. Largely this trend is the result of the departure of cities from active port management.

As with cities, the powers of county governments under Act 66 permit the assignment of port management responsibilities to existing entities or individuals, or the creation of departments, commissions or positions for that purpose. The merits of independent or duplicative county action are the same as with cities. Inter-county cooperation in management of the Saginaw could be facilitated by via certain existing units of government.

Specifically, in the Saginaw Ports' area the East Central Michigan Planning and Development Region is a

multi-county agency with multiple port-related functions. Originally created as an Economic Development District, it was reconstituted in 1973 as a Planning and Development agency under Act 281 of 1945. At present, the Region acts as the coordinating and project clearing house agency for a 14-county area. It is a creature of those county governments, funded by them and created by joint resolution, with its charter defined by its By-Laws.

Subject to amendment of the Region's By-Laws, which requires approval by 75 percent of the sponsoring governments, this agency could provide coordinated management of the Saginaw. As such, it would be a limited version of port commission where the powers exercised are those derived from the parent government(s) - but with even more limited ability to implement development plans. As a clearing house agency, the Region would have to rely on local agencies to "deliver" projects or programs. It would offer expertise in port planning and development as an extension of its present activities.

An alternative to coordinating port planning and development activities via the Region would be a more systematic interchange of information between the county agencies responsible for these activities. These include the Metropolitan Planning Organizations for the respective counties or their supporting staffs, and the respective recreational and economic development agencies.

In the case of recreation, there is informal coordination now via sporadic meetings of the recreation directors of Bay and Saginaw counties and other political subdivisions. In the case of economic development, there is a built-in

bias against mutual action. Accordingly, the most promising area for improvement of cooperation is in port-related planning, specifically by way of liaison between the multi-modal transportation planning entities.

Since the Metropolitan Planning Organizations span an array of planning functions and act as clearing agencies, the most relevant level for port-related liaison is at the staff level. Two counterpart organizations that have been identified as most appropriate for this are, the Bay City Area Transportation Study and the Saginaw Metropolitan Area Transportation Study. They have been created by their respective county commissions with their charters defined in By-Laws. Since the study groups are not budgeted as such but depend on contributed staff of other units of county government, they are not candidates for implementing programs. On the other hand, they could assist coordination of port management most economically.

Multi-Government. The powers available to cities and counties under Act 66 of 1952 may be exercised by those political subdivisions individually or jointly. Accordingly these statutes offer one of the few options for a Port Commission or equivalent entity to provide mutual management of the Saginaw.

The relevant sections of Act 66, paragraphs 281.541 et. seq., Compiled Laws of Michigan, or 5.2768(11)(12)(13) Michigan Statutes Annotated, are as follows:

281.541 Definition (Section 1)

The term "political subdivision" used herein is defined to mean any county, city, village, township or district of this state and any other governmental agency or subdivision, public corporation, authority

or district in this state, which is or may be authorized by law to acquire, establish, construct, maintain, improve and operate harbors, channels and other navigational facilities. Whenever used in this act the term political subdivision shall include any combinations of political subdivisions acting jointly.

281.542 Waterways; harbor guards, ordinances, harbor masters (Section 2)

A political subdivision is hereby authorized (a) to adopt and amend all needful rules, regulations and ordinances for the management, government and use of any waterways, harbors, channels or other navigational facilities under its control, either within or without its territorial limits; to employ harbor guards, police or a harbor master with fullpolice powers; to fix penalties for the violation of said rules, regulations and ordinances and enforce such penalties, (b) to adopt and enact rules, regulations and ordinances designed to safeguard the public upon or beyond the limits or harbors, channels, connecting waterways or other navigational facilities within such political subdivision or its political jurisdiction, which rules shall be consistent with and conform to, as nearly as may be possible, the laws of this state, (c) to vest authority for the maintenance, operation and regulation thereof in an officer, board or body of such political subdivision by ordinances or resolutions which shall prescribe the duties and powers of such officers, boards or body, and (d) to employ a regular harbor master for the harbors, channels, connecting waterways or navigational facilities under its control, or in cases where a harbor board or body is established the harbor master may be employed by such board or body.

281.543 Same; jurisdiction, contents (Section 3)

All powers, right and authority granted to any political subdivision in this act may be exercised and enjoyed by 2 or more of them, or by this state through its appropriate agencies and 1 or more such political subdivisions acting jointly, either within or without the territorial limits of either of them, and contracts may be entered with each other for the herein provided and authorized joint action.

The port commission, harbor commission or equivalent entity created under Act 66 is not a corporate body. It derives its powers as an extension of the governmental unit(s)

that create it. The power to tax, issue bonds and/or own property resides with the parent government(s), and those powers in turn are subject to the limitations imposed by laws other than Act 66; specifically the Waterfront Improvements Act[3], Municipal Finance Act[4], Revenue Bond Act.[5]

The creation of a port organization under Act 66 involves an authorizing resolution and ordinance creating the organization and defining its powers, passed by the governing body of the parent unit or units of government. A vote of the public is not required. Financially the port commission is a part of its parent(s). Capital needs or operating expenses in excess of any revenues are provided by the parent government(s).

The port commission is an appropriate form of organization for providing an advisory body, particularly if no professional staff are to be employed and the budget is nominal. The St. Joseph River Harbor Commission (Benton Harbor - St. Joseph) is a good example of two-city cooperation through a port advisory body. The limitations of the commission form of organization are most apparent when there is a need to retain professional port management, provide facilities and/or achieve self-supporting status. The Muskegon Harbor Commission (city-county) is a good example of what can be achieved and the difficulty in doing so via a port commission organization.

---

[3]Act 66 of 1941; par. 123.601 et seg. Compiled Laws of 1948 (MSA 5.2768(1)(2)(3)(4).

[4]Act 202 of 1943; par. 131.1 et. seg. Compiled Laws of 1948

[5]Act 94 of 1933; par. 141.101 et. seg. Compiled Laws of 1948.

Special Government. Michigan law provides for two forms of semi-autonomous port organizations with the broad powers that are comparable to local port authorities, the prevailing administrative system in other maritime states. Act 234 of 1925 provides for Port Districts. Act 639 of 1978 provides for Port Authorities. Under either law, the port organization is a body corporate that can encompass one or more counties. Additionally, port authorities can be sponsored by combinations of cities and counties. As a practical matter, the port authority form is the only available option.

The older port district enabling legislation provided for a truly independent body with the power to own and operate properties, issue debt, and levy taxes for debt service and operations. These powers are broad and comparable to those of Texas' Navigation Districts and Washington State's Port Districts. Act 234 is codified in paragraphs 120.1 - 120.56, Compiled Laws of Michigan, including the amendment thereto providing for cooperation with and matching grants from Michigan Department of Commerce under Act 251 of 1966. The law is lengthy and comprehensive, but events have made it academic.

- Prior amendments to Act 234 allowed the county government to exercise budgetary control over the port district and to provide administrative services. As a result, the Wayne County-Detroit Port District became indistinguishable from the rest of county government. The only other port district, Monroe, has had a close and continuing relationship with city of Monroe, and results have been happier.[6]

[6]Max M. McCray, Executive Director. Section 9 or Act 234 requires at least two of the five Port Commission Members to be from the county seat of the county in which the port district is located.

- The Port Authority Act (639 of 1978) has a "sunset provision" covering port districts. Section 30 provides "Act 234...is repealed [but not until] the constituent bodies of each port authority created pursuant to Act No. 234 of the Public Act of 1925 and in existence on the effective date of this act participate in the creation of an authority pursuant to this act...". The Wayne County Port District is in the process of converting to a port authority. As of September, 1980, the Monroe Port District had no plans to do so.[7]

Act 639, the Hertel-Law-T. Stopczynski Port Authority Act is codified in Michigan Statutes Annotated paragraphs 5.2190(1) - (30). The principal parallels and differences between the port district and port authority acts include:

- Creation of the port district requires an approving vote by the voters of the county or counties in which it is situated. Creation of a port authority requires a resolution requesting incorporation by the governing body of the "constituent units" (counties and/or cities) and authorization by the governor after consideration of the recommendations of the Departments of Commerce and Transportation. (Sec. 4 of Act 639).

- Appointees to the five-person governing board of the port district (called port commission under both Act 66 and Act 234) are allocated to sponsoring governments by formula. The five to seven membership of the port authority board includes one gubernatorial appointee but is otherwise determined by local option. (Sec. 5).

- The powers of districts and authorities are equally broad in permitting acquisition, ownership, operation and disposal of port facilities. As defined in Sec. 2(e) "Port Facilities" means those facilities owned by the port authority such as: seawall jetties; piers; wharves; docks; boat landings; marinas; warehouses; storehouses; elevators; grain bins; cold storage plants; terminal icing plants; bunkers; oil tanks; ferries; canals; locks; bridges; tunnels; seaways; conveyors; modern appliances for the economical, handling, storage, and transportation of freight and handling of passenger traffic; transfer and terminal facilities required for the efficient operation and development of ports and harbors; other harbor improvements; or improvements, enlargements, remodeling, or extensions of any of these buildings or structures.

---

[7] Max M. McCray, op. cit.

- Port authorities are empowered to regulate and plan the use of waterways including pierhead lines, safety and environmental protection similar to Act 66 Port Commission powers including "Do all acts and things necessary or convenient to promote and increase commerce and recreation within its territorial jurisdiction". (Sec. 10(d)).

- Unlike port districts, port authorities can issue revenue bonds but not general obligation bonds. The constituent governments can pledge their full faith and credit for issuance of port-related bonds, but without any increase in taxing powers or bond limits. (Sec. 12, 13).

- Properties held by port districts were required to pay "payments in lieu of taxes" on income-producing properties. Port authority properties used for "private purposes" are taxable as private property, but when used for public purposes are exempt (Sec. 22).

- Both port districts and port authorities are required to prepare comprehensive port development plans. In the case of port districts, the plans are required prior to building port improvements. In the case of port authorities, the comprehensive plan is required "within two years" of the authority's creation. (Sec. 23).

- Budgets of port districts were subject to the approval of the board of supervisors of the county (or a budget committee for multi-county districts). Authority budgets are subject to the approval of the governing bodies of the constituent (sponsoring) local governments and Michigan Departments of Commerce and Transportation (Sec. 24).

- Port districts were eligible for matching state grants for facility planning and acquisition, subject to appropriation of funds. Port authorities are eligible for 50% state funding of operating budgets. Matching funds for an approved port authority budget are required to be budgeted by the state's Department of Transportation. That budget in turn is subject to legislative approval.

The port authority is the organization form of choice when there is a need to retain professional port management personnel, provide facilities and/or implement programs, and a self-supporting entity is desired. It is not appropriate if programs and budget are to be nominal. The matching state funds available to an authority also obligate it to be more than an advisory body. Without development as well as management functions it is unlikely that incorporation of the authority would be recommended by the Departments of Transportation and Commerce.

Unofficial Institutions. Michigan law recognizes, through the enabling legislation for port districts, and port authorities, that port management is complex. It cuts across a number of planning and development functions and institutions, and often requires a unique solution. The sections on municipal and county port administration are additional evidence of that. In brief, the enabling legislation for special purpose port agencies was not arrived at lightly, and should not be dismissed lightly.

In addition to the official entity charged with port administration responsibilities, whatever its form, most ports have a counterpart organization in the business community, composed of interested port occupants or users. In response to the Saginaw dredging crisis in the 1970's, there was a temporary example of this port phenomenon. In many other ports, a similar citizens group has preceded the formation of an official port entity. In most ports with an official port entity, that entity finds it advantageous to work with an organized group of port users.

Citizen groups unite in response to a perceived need. Some factors that appear to minimize that perception on the Saginaw are: (1) the businesses interested in commercial and recreational uses of the Saginaw do not view it as a mutual resource, (2) the business interests do not have an umbrella organization that bridges the counties involved to view the Saginaw resource in its entirety. This study is intended to help in that respect. It would be desirable to have some type of unofficial institution to assist in the management of the Saginaw. Very likely it would be a necessary precedent to a more formal administration system.

Evaluation of Options

As shown in the preceding section, there are several options to provide more orderly and effective management of the Saginaw. To evaluate these options, it is necessary to define the Saginaw's needs, perceived as well as real, and based thereon, the role of port management. Also, although Phase II addresses only priority commercial development programs and projects, it is appropriate to define management needs in terms of balanced recreational and commercial development, in line with the plan produced in Phase I of this study.

Independent of other studies, Phase I of this study identified numerous opportunities for both recreational and commercial development. In many cases, these opportunities or related problems were identified in earlier studies. Phase I went beyond the previous efforts principally in its attempt to quantify the needs, benefits and costs of specific developments, and in relating these to the entire river resource.

Recreation. The public perception of development opportunities in this field very nearly approximates the findings of the study. In fact, very few of the proposed facilities were original, and the study effort was directed toward determining the appropriate sizing and location of the facilities. With the exception of the two large regional facilities proposed for Middle Ground and the Saginaw Bay Diked Disposal Facility, the recreation facilities are within the capacity of local interests to finance, either with private funds or a combination of local and other public funds.

Overall, there is general agreement between the study and the public perception that local initiative is adequate for recreational development. The study's concern with distributing that development over the entire river, to avoid overbuilding the river mouth and to make recreational activities upriver more attractive, was not matched with expressed interest in more formal coordination of local efforts, either during contacts in the course of the study, or in the recreation plans of the separate entities.[8]

Commerce. Phase I identified several development opportunities that included industrial coal, other bulk cargos including fertilizers, and increased grain exports. The significant benefits available to the agricultural sector from deeper channels was recognized in the earlier 1978 Saginaw River Port Study[9] that suggested channel deepening for a Bay City area grain elevator. Remarkably,

---

[8] 1976 Bay County Recreation Plan
1980 Saginaw County Parks, Recreation and Open Space Plan
1976 Regional Perspectives -- Recreation Facilities

[9] Bay City Area Transportation Study, Saginaw River Port Study, May 1978, pages 18, 19.

despite the potential benefits, the upriver elevator operators have shown no apparent initiative in pursuing channel deepening. Despite the fact that this agriculture-related shipping is now concentrated in Saginaw County, the county has not participated in channel maintenance programs.

This anomaly may be attributable to the perception that further commercial development of the Saginaw will benefit Bay County. The Overall Economic Development Program for Saginaw County noted "Generally local people consider the whole Saginaw-Bay City Port underutilized. However, major new improvements are perhaps more favorable for Bay City as the river channel and highway bridges are less of a problem there."[10] The present waterfront elevator operators understandably view another elevator as competition.

Since transportation savings flow to shippers and receivers -- and particularly in the case of grain, to producers -- and the income from cargo handling is widely dispersed, a parochial view of Saginaw River port development is inappropriate. The Region's 1977 Overall Economic Development Program recognized the river as a regional transportation resource:

> Water transportation appeared to have the best chance for expansion of all the transportation modes. The Region has an international seaport and a foreign trade zone. The committee

[10] Saginaw County Metropolitan Planning Commission, Overall Economic Development Program for Saginaw County, June 1976, revised March 1977.

> felt that expansion of these facilities and increased use of all port facilities would reduce the cost of goods received throughout the Region and would increase the Region's competitive position in the sale of goods. In addition, increased use of water transportation would provide potential employment opportunities for people living in at least five counties.[11]

A better appreciation of the widespread benefits and regional significance of the Saginaw ports could be provided by a study comparable to the 1976 Economic Benefits of the Port of Detroit.[12] That study quantified the benefits applicable to the cargos moving through the Port of Detroit on a commodity by commodity basis, and also allocated those benefits to the counties in the port's hinterland. Although there are numerous other port impact studies, the Detroit study was unique in identifying benefits by geographic area. The Detroit study was part of the overall effort by the Interagency Task Force for Detroit/Wayne County Riverfront Development directed toward producing a more effective port organization. That effort, the benefit analysis, and the Task Force's conclusions and recommendations are summarized in its report, Partners for Progress -- the Land and the River.[13]

---

[11] East Central Michigan Planning and Development Region, Overall Economic Development Program, December 1977, page 184.

[12] Dr. Asil Gezen, Economic Benefits of the Port of Detroit, A report prepared for the Interagency Task Force for Detroit/Wayne County Riverfront Development, May 1976.

[13] Partners for Progress -- the Land and the River, the Report of the Interagency Task Force for Detroit/Wayne County Riverfront Development, published by the Office of Economic Expansion, Michigan Department of Commerce, June 1976.

A definitive port economic impact analysis is beyond the scope of this study. The Economic Benefits of the Port of Detroit involved some one and one-half man-years of effort. In lieu of a scientific analysis that identifies the specific cargo origins and destinations and flow of expenditures, Table II-2 provides a rough estimate of the dispersion of benefits for a hypothetical Bay City grain elevator on a Seaway-depth channel.

TABLE II-2

ESTIMATED ECONOMIC BENEFITS PER TON OF GRAIN

Counties	Expenditures Direct	Expenditures Indirect	Transport Savings	Total
Bay	$3.48	$ 1.93	$ .15	$ 5.56
Midland	.27	1.09	.09	1.45
Saginaw	.92	3.67	.42	5.01
Other	1.33	5.31	3.89	10.53
	$6.00(1)	$12.00(2)	$4.55(3)	$22.55

Notes: (1) Direct port area expenditures for grain exports are low end of range ($5.45 - $15.00) provided by American Association of Port Authorities from impact studies of numerous ports. Low-end used to relate to estimated $2.10 elevator charges, $1.00 fitting and trimming vessel; and balance for grain inspection, land transport, vessel expenditures. Allocation assumes half of $6.00 is local labor, balance is supplies, services, other charges, allocated to 14-county region by population.

(2) Indirect benefits estimated at two times direct, mid-range of EDA 1.5 factor, University of Texas/ Port of Houston 2.81. $12.00 allocated to 14-county region by population.

(3) Seaway depth savings at $4.55 from Phase I study, page 140. Allocated to 46-county port hinterland by production, Phase I, page 80.

It should be noted that Table II-2 is unscientific, but it is intended to be representative. It is offered to illustrate a point; that the public's perception of the benefits of port development may not be correct. A comprehensive analysis would include all commodities as well as their hinterland origins or destinations and the specific port facilities used.

Industry. Compared to previous studies performed by or for the local governments, the Phase I report was more optimistic in regard to development of commerce on the Saginaw, less optimistic about specific industrial development opportunities. Port improvements that have been suggested earlier[14]--a heavy lift crane for machinery shipments, the replacement of the D&M bridge at Bay City to allow construction of the largest size lake carriers -- could not be justified on the basis of foreseeable business. The use of a foreign trade zone would not significantly improve opportunities to use imported materials or local labor supply.

A realistic appraisal of industrial development opportunities recognizes that new installations requiring large waterfront sites are few and far between. The new shipyard recently located in Ontonagon is evidence that they do occur. The port development plan of Phase I was designed to provide a balance of recreational, commercial and industrial waterfront uses, based on the premise that increased commercial and recreational activities would produce supporting industrial activities. Partly for that

---

[14]Bay County Economic Adjustment Plan, a report prepared by the Michigan Department of Commerce and Marten Hoffman and Company, Inc., 1975, pages 46-55.

reason, the report did not recommend concentrating all commercial facilities at Bay City. To an even greater degree than commercial development, industrial development will depend on perception of the whole river as a mutual resource.

In brief, there is considerable variation in the perception of Saginaw River development opportunities. This is paralleled in the perceived need to manage that development.

- The Bay City Area Transportation Study's 1978 Saginaw River Port Study recommended a full-time port director and suggested this be via a two-county port organization.[15]
- None of the Saginaw and Midland County studies and plans reviewed in the course of this study evidenced interest in a port management organization.
- The East Central Michigan Planning and Development Region's 1977 Overall Economic Development Program recommended the establishment of a tri-county or multi-county port authority.[16]

In view of all of the foregoing, it can be assumed that none of the port management options, including doing nothing, will have universal appeal. Since the Phase I study -- and other studies of the river -- found a real need to manage the resource, the evaluation of options has three goals:

(1) To identify the minimum management system consistent with real and perceived needs.

(2) To identify the best system for management and development of the Saginaw.

---

[15] Op cit, pages 18-19.

[16] Op cit, page 184.

(3) To identify a strategy for going from (1) to (2).

Minimum Management. Literally "doing nothing" is a local option in Michigan because of the unique services provided by the Michigan State Waterways Commission acting as local cooperation guarantor for the federal channel project, and the Michigan DOT in coordinating the development of the state's waterways. It is because of their effectiveness, not lack of it, that doing nothing would be unacceptable. These agencies represent a significant investment of state funds, and are a resource to be used for Saginaw port development. They can be effective only when there is at least someone local "to answer the phone".

Similar to the interaction between state agencies and local interests, there is a need to use all of the local development resources available within the Saginaw ports area. As a practical matter, if there is anything less than multi-county port management system, it is likely to involve only a Bay City, or more likely to involve only a Bay County port agency. In that case, the lack of participation by Saginaw County in port affairs would be a self-fulfilling prophesy. A Bay County Port Commission would be hard pressed to explain or justify any efforts to improve or maintain the navigation channel to Saginaw -- including spoil disposal areas, particularly when the principal impact at Bay City would be more bridge openings.

Perceived or not, Saginaw and Midland Counties have an interest in management of the river. A minimum management system requires the participation of Bay and Saginaw Counties, and the exercise of the powers available under Act 66 of 1952 to harmonize the regulations and planning of the two

counties relevant to the river. As an administrative device utilizing existing units of government, the merits of a bi-county Port Commission are compelling. Creation requires the initiative of the Bay and Saginaw County Commissioners.

This report recommends that the initial port organization be a Bi-County Port Commission with the following features:

(1) Create the Commission by joint resolution of Bay and Saginaw Counties. Implementing ordinances can be adopted by the counties severally.

(2) Provide staff support as needed by utilizing the expertise provided by existing planning organizations, alternately one or both counties or the East Central Michigan Planning and Development Region.

(3) It is suggested that two members of the Commission be elected officials of the two counties, two members be representatives of river users appointed by their respective counties, and the fifth member be alternately, nominated by the appointed members or determined by any other mutually acceptable formula.

Maximum Development. The Port Commission as described in the preceding section would be quite adequate to coordinate the planning and assist the development activities of the existing agencies within the Saginaw ports area. The need for an agency to provide development initiative is a matter of perception. Phase I of this study indicated there was such a need. This is based on the business principle that when there is identified work to be done, the way to get results is to assign the responsibility to a specific individual or agency.

To be effective as a development agency, the port management organization needs a separate corporate identity, the ability to own property, employ specialized personnel, and be self-supporting. In brief, this is the port authority provided for in Act 639 of 1978. Subject to the public's perception that the Saginaw is a multi-county resource with broad benefits, the option of choice would be a tri-county port authority, representing Bay, Saginaw and Midland Counties. In the interim, an educational effort is required to clarify the public perception of the role of a port authority.

- Universally, the creation of an additional unit of government is viewed with suspicion by existing political entities. The initiative for creation of a port authority is too much to expect of County Commissioners.
- Within Michigan, the role of a port agency of any type has been clouded by the acrimonious debate in Detroit over public versus private participation in waterfront development. That city literally "missed the boat" in utilizing its resource because a small segment of the community has viewed the public agency as competition instead of providing complementary services.
- Locally, and probably universally, another new public entity is viewed as "more taxes".

There may be some element of truth in the last concern. Compared to some other ports, the Saginaw has been remarkably free of local obligations that involve significant cash expenditures of public funds. Considerable ingenuity will be required to provide spoil areas for upriver dredging without payment for fee title or easements. Since the burden of these payments would fall on Saginaw County, it would be to that county's interest to have a multi-county port authority immediately, in order to have a vehicle for sharing the cost of local cooperation. For that reason,

the immediate creation of a port authority to address problems of spoil disposal would guarantee an unfair public perception of the role of the authority.

The classic definition of the role of a port authority was stated by a former manager of the Port of Toledo:

> The reasons for establishing a public port authority include the desire for orderly development of the harbor with planned facilities and nondiscriminatory access for shipping, as well as the necessity of providing the data in rate cases, in national legislation, and in obtaining adequate harbor and channel appropriations. Another primary reason for the establishment of port authorities is that they function in an area not attractive to private capital. For instance, private industry cannot obtain long-term financing at the interest rates available to public bodies, cannot acquire land by eminent domain.... Still another reason for establishing a port authority is the direct benefits bestowed on industry in that facilities constructed by public funds are usually leased to private firms on terms profitable to the operator. Few public port bodies operate the facilities they own. In addition, the public port agency in its promotional efforts and in its solicitation of cargo serves as a sales force for the private operators in the port.[17]

This study recognizes that the opportunities of Toledo are not those of the Saginaw. Fortunately, neither are the problems of Detroit. The role of a port authority on the Saginaw need not be as broad as that described by the Toledo port director. It can be a significant and useful one nonetheless. The role described by Mr. Jewell is a valuable guide.

---

[17] Government Control of Ports, by E.O. Jewell, Western Reserve University Law Review, December 1959, page 85.

This report recommends the ultimate incorporation of a Tri-County Port Authority with the following features:

(1) Contract the performance of planning and regulatory powers and duties contained in Section 10 of Act 639 to the existing planning organization(s), in order to preserve the continuity of inter-county cooperation established under the Port Commission, with the Port Authority Board retaining the oversight exercised by the Commission.

(2) Exercise the primary (developmental) powers and duties contained in Section 8 of Act 639 by employing a minimum professional staff. Unless otherwise justified by specific port programs or projects, this staff would be one executive and one or two supporting staff.

(3) Vest the ultimate ownership of the Saginaw Bay Diked Facility and any other lands acquired for similar public purposes in the authority, for port related development, commercial, recreational, industrial, regional or otherwise as consistent with applicable plans.

(4) Operate the authority as a public enterprise, so that consistent with its development obligations and the philosophy that private enterprise should provide facilities and services when willing and able, the authority's long-range goal shall be self-support.

Strategy. This report has recommended the creation of a Port Commission on the initiative of the Bay and Saginaw County Commissioners. The following three stages would be an appropriate route to consideration of conversion of the Commission to a Port Authority. Absent a bi-county initiative to create the Port Commission, step one and possibly step two could be helpful precedents.

(1) A comprehensive economic impact study of all Saginaw waterfront activities that identifies the distribution of benefits.

(2) Creation of a Port Committee or equivalent citizens group with a representative membership of port occupants or users as described in the preceding "Unofficial Institutions" section.

(3) An examination of the operations of representative port authorities by representatives of the Commission and Committee. This report suggests the following candidates for visits and/or exchange of information:

- Toledo-Lucas County Port Authority (outstanding rapport with business community)
- Seaway Port Authority of Duluth (industrial development emphasis)
- San Diego Unified Port District (multi-jurisdiction, recreational development emphasis)
- Lorain Port Authority (small but effective)

The Lorain Port Authority's activities approximate those required for the Saginaw. That authority's policies, 1980 work program and budget are attached to this study as Appendix A.

Financial Analysis

Substantially the same amount of effort is required in the establishment of a Port Commission or a Port Authority. The commitment of financial support after creation or incorporation will largely be determined by the projects and programs undertaken by either organization, but there are significant differences.

- The creation of a Port Commission carries no obligation to spend any money on personnel, projects or programs. It is possible to exercise the powers of the Commission through use of contributed staff with a budget that is nominal.

- The incorporation of an Authority does imply an obligation to have a professional staff and action programs. As noted in an earlier section, it is unlikely that incorporation would be recommended without this. In addition, the Port Authority Act (639), requires a "Plan of Development" to be prepared within two years of creation, and this study does not constitute the comprehensive study required under the Act. As a partial offset to these obligations, the state may provide 50 percent of authority operating expenses.

Under the Minimum Management/Maximum Development options for the Saginaw, the minimum annual financial commitment could be zero for a Port Commission, in the $15,000 - $25,000 range for a Port Authority. The cost of the latter is predicated on a minimum level of development effort using a part-time professional. A more realistic level of effort and expense for planning coordination and promotion by the authority, would be in the area of $50,000 per year.

The financial estimates are based on the actual experience of the Lorain Port Authority. Until two years ago, their staff was a part-time but very competent professional with secretarial assistance. Similar to the Saginaw setting, that authority was not endowed with any revenue-producing assets. The authority has built up an income by acting as the financing vehicle for port-related facilities. Initially, income consisted of interest earnings on escrowed funds. Their current formula is one-half percent of the face amount of the issue plus one-half percent annually of the amount outstanding. The facilities that have been financed include a shipyard expansion (Amship), tank farm (Ashland), and most recently, a bulk handling plant (Republic Steel).

The Lorain authority now has a full-time professional with secretarial assistance. The authority's 1980 budget

is shown in Appendix A. Assuming an identical level of effort and income for a Saginaw River Port Authority would produce the following results.

TABLE II-3

ESTIMATED INCOME/EXPENSE
SAGINAW RIVER PORT AUTHORITY

Personnel	$ 45,200
Supplies & Services	10,500
Development & Sales	11,540
Miscellaneous	2,100
Total Expenses	$ 69,340
Income	24,600
Deficit	$ 44,740
State Contribution	22,370
Local Subsidy	$ 22,370

Findings

As a leading maritime state, Michigan is unique in the port administrative and developmental services provided by state agencies. This arrangement, which is not likely to change, reduces the role of local port agencies -- but does not eliminate the need for them. The services provided by the state should not be viewed as competing with a local authority's, but complementary -- an opportunity to obtain the benefits of local initiative at minimum cost.

Michigan law recognizes the need for local participation in port administration, and provides several optional forms of organization to manage and/or develop port resources. Within the unique setting of Michigan's port-related infrastructure, this offers an opportunity -- and a challenge -- to adopt an organizational form that is best suited to local circumstances. The local perception of need varies widely, and it is unlikely that any one of the port management options would meet immediate, universal approval.

Recognizing both needs and realities, this study has recommended the immediate creation of a bi-county Port Commission, and longer-range, the incorporation of a tri-county Port Authority. In the interim period, or if necessary as precedent actions, the study recommends determination of the economic benefits of the Saginaw ports, and establishment of formal liaison with the ports' business community. Ultimately, the value of any local port organization will depend on it being perceived and used as complementing and not competing with existing political institutions and business enterprises.

III. Port Development Programs

Overview

Phase I of the study identified a number of port development problems and needs. Some of these are regularly recurring, and are typical examples of the needs routinely addressed by established port organizations. The Phase I report suggested that they be given priority attention, presumably by a new port organization. The study Advisory Committee directed the Consultant team to address these in the Phase II study. For a brief period, the consultant team functioned as the port authority.

Port Project

The Phase I report analyzed the need for dredging of the Saginaw. The purpose was twofold: to identify any need for deepening of the navigation channels, and to test the logic of terminating dredging of the channel upstream of Bay City. Both the deepening and the abandonment of dredging have been suggested prior to the report.

The report found that the major beneficiaries of deepening would be agricultural interests. Unfortunately for them, the export grain elevators are at Saginaw. A preliminary cost-benefit analysis indicated deepening at Bay City would be justified, but not to Saginaw. There are several alternatives, including a grain elevator at Bay City. One necessity is a definitive cost-benefits analysis and justification for the dredging.

As noted in Phase I, the procedures for implementing channel improvements and their official study are lengthy.

An ongoing study by the Corps of Engineers of the Great Lakes connecting channels and harbors provides a convenient vehicle for an official study of Saginaw improvements. The Saginaw was not included in the original study scope, and the Phase I report suggested a timely request to this effect.

In September, a request for inclusion of the Saginaw in the Corps' study was made by the Study Coordinator, in behalf of the Bay County Commission. Were there a port organization, the request would be a typical responsibility. In support of that request and for use in subsequent Corps studies and public hearings, a local port agency typically would produce in-house, a study comparable with this report's analysis of the needs and benefits of channel dredging, but with a stronger advocacy of improvements.

Dredged Material Disposal

Federal improvement and maintenance of a waterway customarily involves certain "local obligations" such as providing rights-of-way and relocation of utilities as may be needed for dredging, assurance that wharves and similar structures will be built and the waterway used, and disposal areas for dredged material. As noted in the Phase I report, local obligations are subject to negotiation, and may be more extensive.

In Michigan, the Michigan State Waterways Commission acts as the contracting agency with the Corps of Engineers, to provide assurances of local cooperation. When necessary, the Waterways Commission may require a subsidiary contract with local interests, to support the guarantee to the Corps. This unique arrangement for local cooperation agreements arose from the circumstances under which the Waterways

Commission was created. Act 320 of 1947 charged the Commission with the development of the ports and waterways of the state, with the immediate purpose of securing the construction of fifteen harbors of refuge. The latter required the power to provide the local cooperation assurances. Thereafter, the development of commercial harbors was assigned to the Michigan Department of Commerce in the 1960's, and to the Michigan Department of State Highways and Transportation in 1973 by Act 327 of 1972, but the power to contract for cooperation assurances remained with the Waterways Commission.

In the case of the Saginaw Bay Diked Disposal Facilities, the site was state-owned land, but an agreement with Bay County was required in order to provide for ultimate ownership after use as a dredged material disposal area. The dike itself was constructed with 100% federal funding under P.L.91-611. That law provides that the ownership of a diked disposal area will not remain with the federal government when it is no longer used for the purpose for which it was built.

In the case of the Middle Ground dredged material facility, Bay City provided a city-owned site and diked it, because it was advantageous to use the dredged material in the adjacent city sanitary landfill. Since that landfill operation must be discontinued in the near future, this study and all parties concerned with river dredging have identified the need to provide a new mid-river disposal site.

The Phase I report emphasized the need to acquire a large enough site to serve for an extended period. This is reinforced by the Corps' determination that the new mid-river facility's dikes can be funded under P.L.91-611.

Diking is a significant expense. Should local interests be required to pay the cost of future dikes, it would be disadvantageous to constrain the size of the P.L.91-611 funded facility, and advantageous to build it where it could be expanded economically. The Phase I report recommended an area on the west side of the Saginaw, southwest of James Clements Airport and identified on some maps as the "Clements Seaplane Base." The report recommended a site of 330 to 700 acres, depending on acceptable dike heights, to accommodate dredged materials to the year 2020. For comparison: the Middle Ground facility is 12 acres; the 17-mile Brownsville, Texas channel has 20,000 dedicated acres; the 25-mile riverine section of the Houston Channel has about 2,500 acres -- but the dikes are taller than adjacent houses.

Concurrent with the completion of the Phase I Port Development Study, the Corps of Engineers announced a "Public Workshop Session" for August 28, 1980, to consider four spoil disposal facility sites that had been identified during the Corps' one-year search for candidate sites. The Corps' sites were:

(1) 45 acres, Northwest portion of Clements Airport;

(2) 40 acres, Southeast portion of Clements Airport;

(3) 50 acres, North of and adjacent to the Farm Bureau Elevator at Zilwaukee;

(4) 40 acres, East Bank of the Saginaw across the road from the Saginaw Veterans Memorial Park, north of the Bay County-Saginaw County Line.

The first two sites are owned by Bay City, and the City preferred site #1. The other two sites are privately owned. The first three sites were considered in the Phase I report,

and deemed unacceptable for stated reasons. The fourth site was not considered in that report. It was the generally preferred site by the attendees at the public workshop. Figure III-1 following, shows the preferred site at the public workshops cross-hatched and the sites recommended by the consultants (Maxwell preferred).

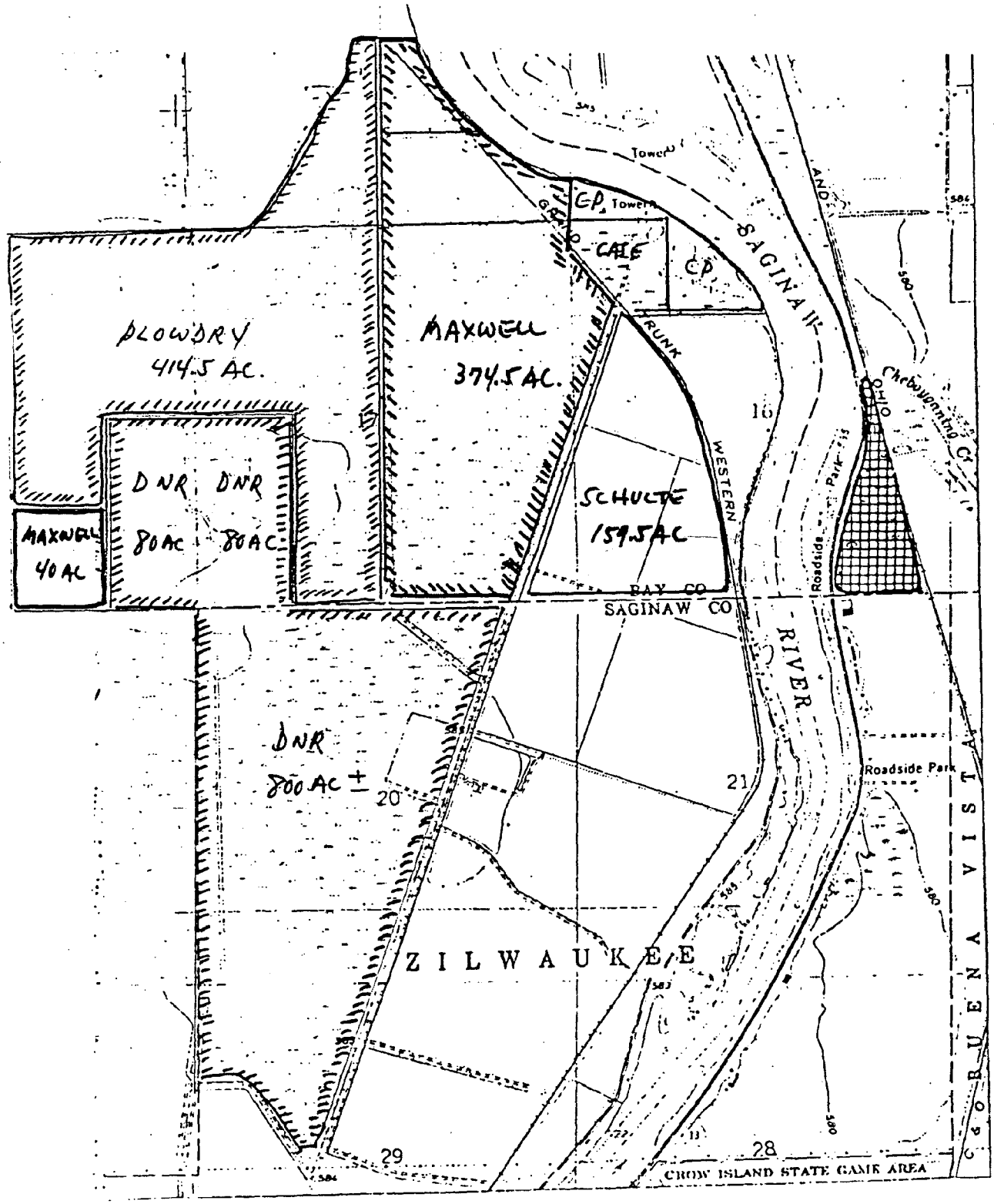
The west side sites were submitted to the Corps for consideration, by letter dated September 4, 1980, from the Study Consultants. Copies of the Corps' notice of the public workshops, and the consultants' letters are attached to this report as Appendices B and C, respectively. As noted in the letter, Michigan Department of Natural Resources has denied a request by property owner Maxwell for a permit to fill that property, and DNR is now negotiating the purchase of that property and assembling acreage to create a state game area now called "Crow Island West."

Preliminary inquiry by the consultants at DNR indicate the state is not receptive to using all or part of the Maxwell property for spoil disposal. However, the DNR Wildlife Division did indicate that use of part of the present (east shore of the Saginaw) Crow Island State Game Area could be considered with the provision that local interests would be required to mitigate the interim loss of the game area, and restore it after use. "Mitigation" customarily involves dedication of more-or-less equal acreage for the same use, but recent efforts of the port industry have produced some innovative solutions where the trade-offs are more flexible.

At the present time, the 40 acre site preferred at the public workshop appears to have several limitations. Since it is privately-owned, fee title or a long-term easement

Figure III-1

Proposed Mid-River Spoil Disposal Sites



Source: TERA, Inc.

must be purchased, and an undefined amount of mitigation committed. To avoid prejudicing the state's negotiations for the Maxwell property, the consultant refrained from contacting the property owners. A clear indication of local support for use of the Maxwell or adjoining properties would be appropriate before pursuing the matter further with DNR.

Port Promotion

The Phase I report on "Commercial Development" identified two factors that will have a significant effect in determining whether the Saginaw achieves its full potential. They were (1) improvement of the navigation channel, and (2) promotion of the port. The efforts already initiated in regard to a review of the federal project and provisions for disposal of dredged material will be helpful. The Phase I report proposed reactivation of the Dow Chemical owned Bay City Seaway Terminal as a public facility under the auspices of a port agency as an activity that could initiate a port promotion program that combined incentives with the possibility of self-support.

The relevant sections of the Phase I report were shared with executives of Dow Chemical U.S.A. The substance of the consultants' discussions with those executives is:

- Dow Chemical is interested in reviving the operation of their Bangor facility as a public use terminal consistent with Dow's shipments through the facility, as a use that may incidentally benefit Dow, but principally to demonstrate corporate responsibility in port development.

- Dow would prefer an arrangement with a private terminal operator, such as the previous terminal operation by Oglebay Norton Company.
- The Dow executives are convinced that the potential general cargo traffic of the port will not provide enough business for a viable public terminal operation.
- Dow is not about to make a commitment at this time to a public port agency not yet in existence, and whose form of organization and operation have not been defined.

In summary, the proposal in the Phase I report was not rejected outright. Neither did it produce an immediate need for a public port agency.

As noted in the Phase I report, Mr. Bernard Surath acquired the former Oglebay Norton general cargo terminal in Carrollton. He has now reactivated it, and anticipates scrap shipments and receipts of pig iron by vessel. His is a classic example of the entreprenuerial spirit needed to develop the Saginaw's ports. Because of his proprietary interest in the Carrollton terminal, he is a remote candidate to operate the Dow facility.

The alternative to public terminal operation of the Dow facility to revive the Saginaw's general cargo traffic is to produce the need for a public facility first, by identifying and attracting a sufficient volume of neo-bulk or other cargos compatible with the facility, i.e., Scrap handling would not be appropriate.

The Dow executive for further contact in regard to the terminal is Mr. Donald E. Janish, Site Manager, Bay City Plants, Michigan Division. (517) 684-1330.

Findings

Appropriately, the federal project study of channel improvements, the provision of spoil disposal areas and the initiation of a port promotion effort have been addressed as ongoing programs. As noted, there has been some initiative in these areas associated with this study, but real progress will require continued effort.

Provisions should be made for updating the relevant sections of the Saginaw River Port Development Study to assist in making the Corps of Engineers study of channel improvements productive.

There is an opportunity now to provide a long-term solution to a new mid-river dredged material disposal site. General agreement at the local level as to the desirability of the proposed site is a prerequisite to what will have to be a concerted local effort to dedicate the site for spoil disposal -- an effort comparable to that involved in the Saginaw Bay Diked Disposal Facility.

A continued effort should be made to locate a suitable operator and/or the requisite cargos needed to reactivate the Dow Chemical facility in Bangor as a public terminal.

IV. PORT DEVELOPMENT PROJECTS

Overview

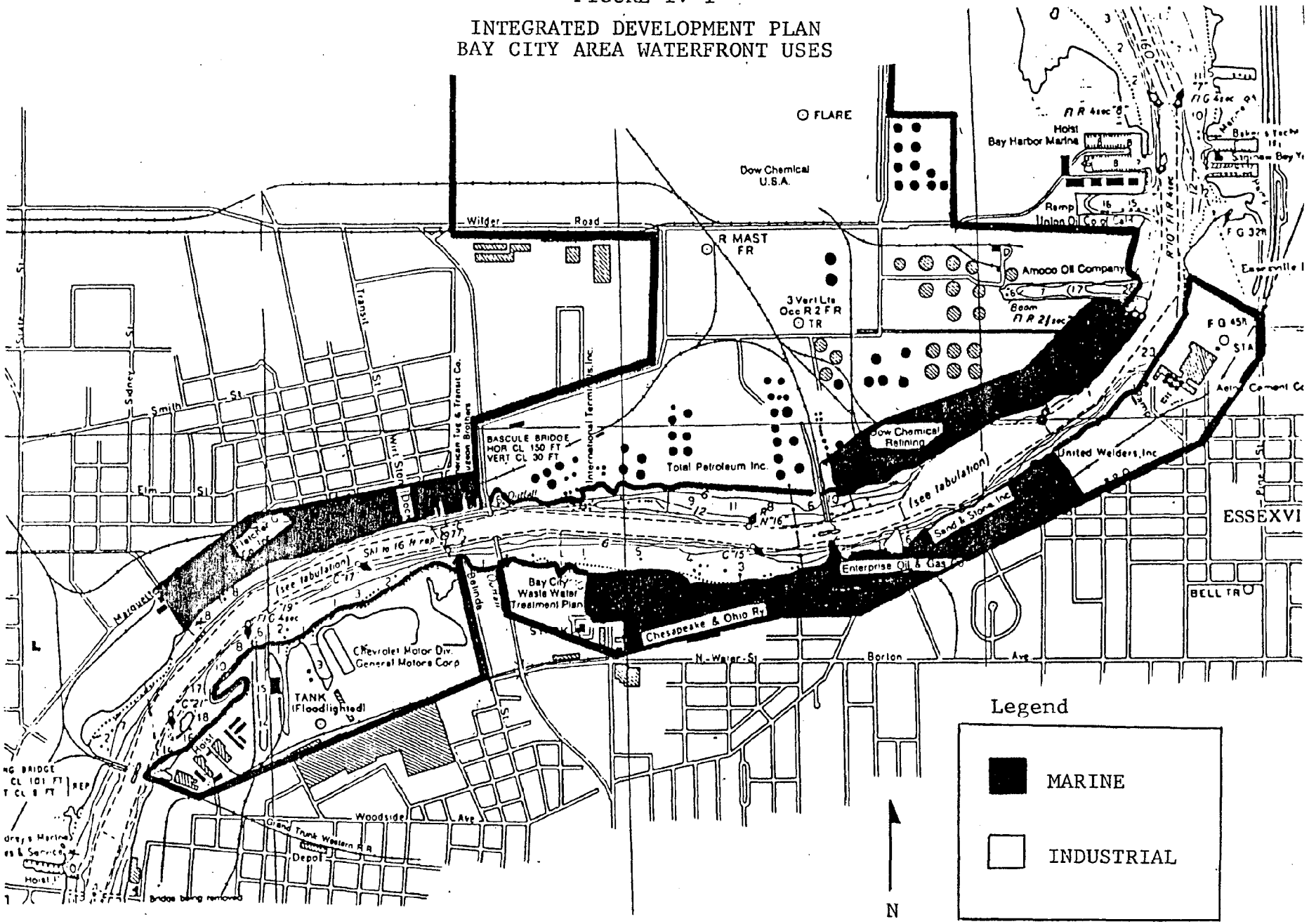
Phase I of the study identified most commercial port development opportunities to be associated with the agricultural sector--grain and animal feed exports, and fertilizer receipts by vessel (both domestic origins and imports). An export grain elevator on Seaway depth channels was estimated to offer higher returns to the local grain producers. The cost of a minimum suitable elevator was estimated to be $7.5 million. Further analysis of a multi-purpose dry-bulk terminal capable of handling both feed exports (in pellets) and fertilizers was also recommended, with no estimate as to cost. The Study Advisory Committee determined these two facilities were the top priority projects, and directed the consultants to investigate their feasibility in Phase II. This chapter presents the conceptual designs, underlying assumptions and estimated costs for the two facilities, not including site acquisition costs.

Facility Sites

The Phase I report identified the need to use the commercial waterfront of the Saginaw more intensively, by consolidation of uses where feasible as with the oil terminals, and the desirability of consolidating new significant investment in marine terminals in the Bay City area, where the maintenance of channel depths is more economical and more likely. Figure IV-1 shows the recommended uses of the waterfront in the Bay City area for commercial purposes, based on the integrated development plan of Phase I.

FIGURE IV-1

INTEGRATED DEVELOPMENT PLAN
BAY CITY AREA WATERFRONT USES



Land transportation as well as channel depths was a major factor in determining the proposed sites for the two facilities investigated in Phase II. For those locations with reasonably acceptable rail and road service, the next priority was to find existing underutilized terminals that would offer suitable sites. The final major criterion or factor was to provide for future expansion of the facilities.

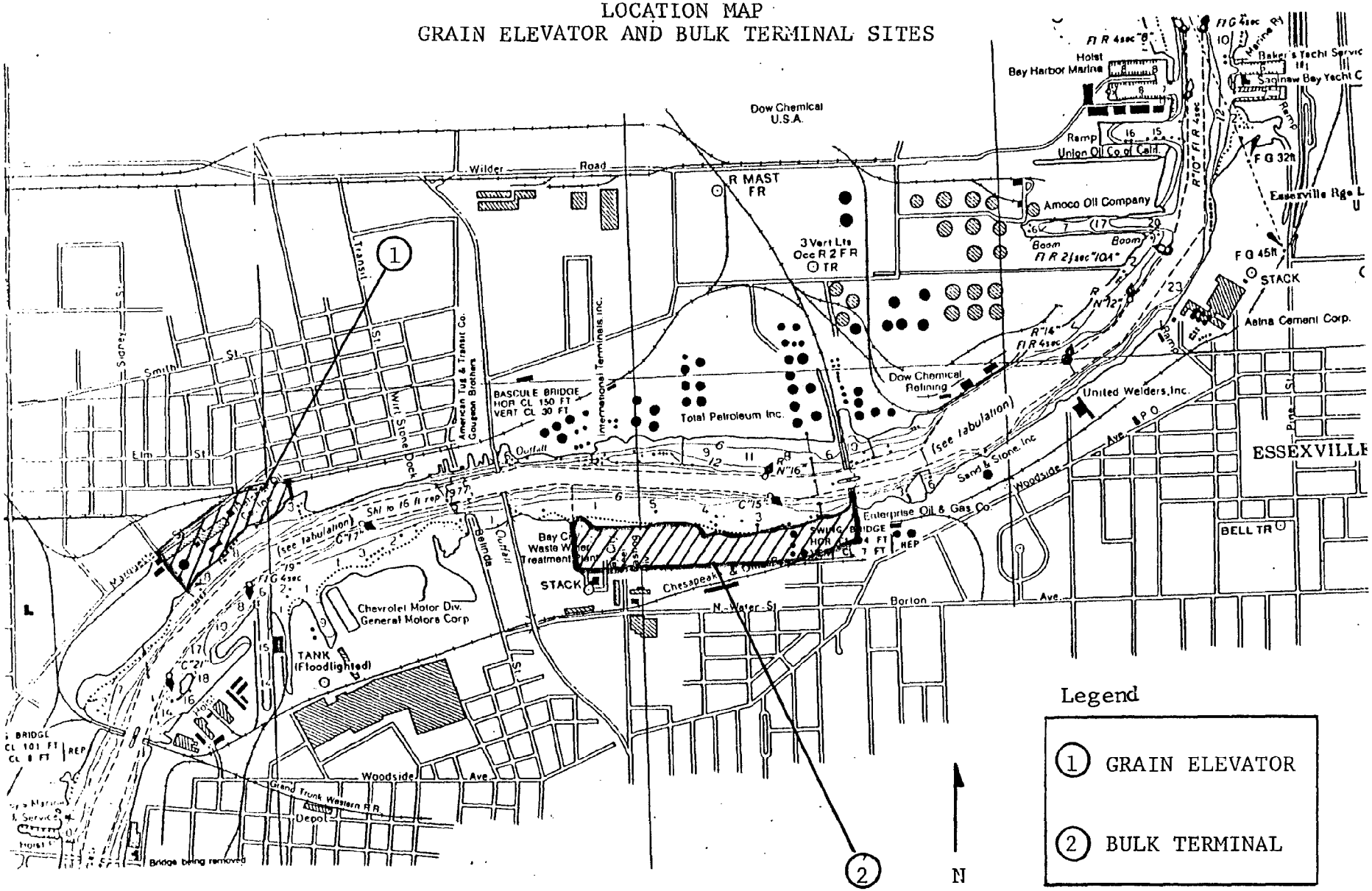
This analysis identified the two sites shown on Figure IV-2. The owners of the two properties were contacted to determine if there were any objections to the consultants' use of the sites--at least on paper--for preparation of conceptual plans. Both parties readily agreed. Mr. Frederick Fletcher of Fletcher Oil Co., owner of the grain elevator site, welcomed a project that could make more intensive use of that site. Mr. Barron Berger, Senior V.P. and General Manager of Newcor-Bay City, indicated his company's property was not needed for corporate purposes, and an alternate use for the property would be welcome.

The consultants were aware that a portion of the Fletcher property has been designated an archaelogical site because it had been used by Indians, and there might be resistance to its development. An effort was made to identify the specific boundaries of the designated site (apparently none) and the legal restrictions on its use (likely a delay in issuance of construction permits regardless of the presence of artifacts).

The prime portion of the Fletcher property centers on the "Indian Mound", and although this area has been thoroughly mined for artifacts, the consultants considered it ineligible as the elevator site. Accordingly, the presently developed portion of the Fletcher property was used as the proposed

FIGURE IV-2

LOCATION MAP
GRAIN ELEVATOR AND BULK TERMINAL SITES



site, even though this would impinge upon existing uses, and is less attractive geologically. That portion of the property has been filled, indicating that it probably never was used by the Indians. Michigan State University, the organization that had nominated the "Mound" site for the archaelogical register, indicated two days of core borings could conclusively determine whether this portion of the property had archaelogical value.

The principal reasons for selecting this site despite the potential controversy are:

- The Fletcher site provides a unique combination of rail and highway access in the Bay City area.
- As an elevator site there would be demonstrable benefits from deeper channels. The anticipated upstream limit for deepening the Saginaw is the Grand Trunk railroad bridge immediately upstream of the Fletcher property. The favorable cost-benefit ratio attributable to the elevator would apply to all dredging downstream.

The general location of the multi-purpose dry-bulk terminal was chosen because the south bank of the Saginaw between the Truman (highway) bridge and D&M (railroad) bridge is a prime marine terminal area and not being used for that purpose. The specific location next to the Bay City Wastewater plant was chosen because it presented the possibility of building a wharf structure offshore from the plant, and thus making multiple use of the water area and providing an activity suitable for viewing from the proposed riverfront mini-park. The design was constrained by the size of the Newcor property, and field surveys will be needed to determine if the indicated rail access impinges on existing structures. Alternately, the Bay Chemical property could provide rail access or a facility site.

Traffic Patterns

As indicated, land transportation access was a key determinant of prospective facility sites. Similarly, the impact of trains and truck traffic on the adjacent community was a key consideration.

The operators of the present waterfront elevators at Saginaw have both considered Bay City as a location, but considered the lack of good truck access from Interstate 75 to be a severe disability. If the site is on the south shore (such as the proposed bulk terminal) and the access is via the I-75 business route through downtown Bay City, their perception is correct.

Analysis of the access via Wilder Road convinced the consultants that a north shore location for the elevator would be feasible. In addition, the Fletcher site is served by Conrail with a direct link to the elevators in Saginaw. This will provide better service for shuttling grain between the elevators, and minimize grade crossing interference with highway traffic.

The prospective tonnage to be handled by the bulk terminal is smaller than the grain elevator, and peaking of traffic flows will be far less. In addition, due to the new highway bridge over the Saginaw, truck traffic can be routed via Wilder Road for access to I-75.

Environmental Considerations

The conceptual design of the two facilities includes those features that are current best practice in environmental protection.

The grain elevator employs an inclined belt for elevating grain to the top of the silos in lieu of the traditional vertical bucket elevators, in order to minimize the creation of dust and dust explosion hazards. This makes the facility relatively more expensive than older designs, but is state-of-the-art design.

Both the grain elevator and bulk terminal are designed to trap surface runoff water, from rain or other sources, and divert this water to sedimentation basins or treatment facilities when necessary, before discharge into the river.

The specific impacts addressed in the conceptual design are:

- Visual. The grain elevator silos are not obstructive, and the architectural symmetry should be pleasing, absent the traditional "headhouse" for elevating legs, which is usually twice the height of the silos.
- Noise. Receiving and delivery capacities at both facilities have been designed so that rail switching service will not be needed more than 16 hours per day. Grain elevator truck traffic normally peaks at the beginning of the business day, and is lowest during the midnight-6 AM period.
- Dust. Both facilities are designed to meet EPA air and water quality standards, with the most cost-effective equipment.

Conceptual Designs

The design objective for the two conceptual plans was to provide, consistent with good safety and environmental protection features:

- An export grain elevator of minimum feasible size at the lowest possible cost, conservatively estimated.

- A multi-purpose dry-bulk terminal with relatively high tons-per-hour receiving and delivery capacity and generous storage space and bagging facilities, with a substantial multi-purpose wharf. In effect, the facility is over-designed to provide a basis for terminal expansion in the future.

The general site plans for the grain elevator and bulk terminal are shown in Figures IV-3 and IV-4, respectively. The design criteria for these two facilities were as follows:

Grain Elevator. Based on the estimated elevator needs shown on pages 139 and 140 of the Phase I study, a "deepwater" elevator would have potential annual exports independent of those via the port elevators in the Saginaw area as follows: (In thousands of bushels)

1980 - 14,763	2000 - 19,843
1990 - 17,302	2020 - 24,923

Based on an annual throughput of ten times storage, and the length of time it will take to provide Seaway channel depths at Bay City, the market will support a minimum-size export elevator of 1.5 million bushels capacity by the time that deepwater elevator is reality. Long-run, provision should be made for increasing storage capacity to 2 million and 2.5 million bushels.

It is assumed that about half the grain received will be by rail from other elevators including the port elevator at Saginaw, with the other half by truck -- either from other elevators or direct from farms. It is assumed that virtually all shipments will be to vessels, with an occasional trainload loaded out. The vessels are likely to be maximum size "salties" loading about 700,000 bushels. Based on 15,000,000 bushels per year, indicated annual traffic in about 7,500 trucks, 2,187 rail cars, and 20 vessels.

FIGURE IV-3
GENERAL SITE PLAN - GRAIN ELEVATOR

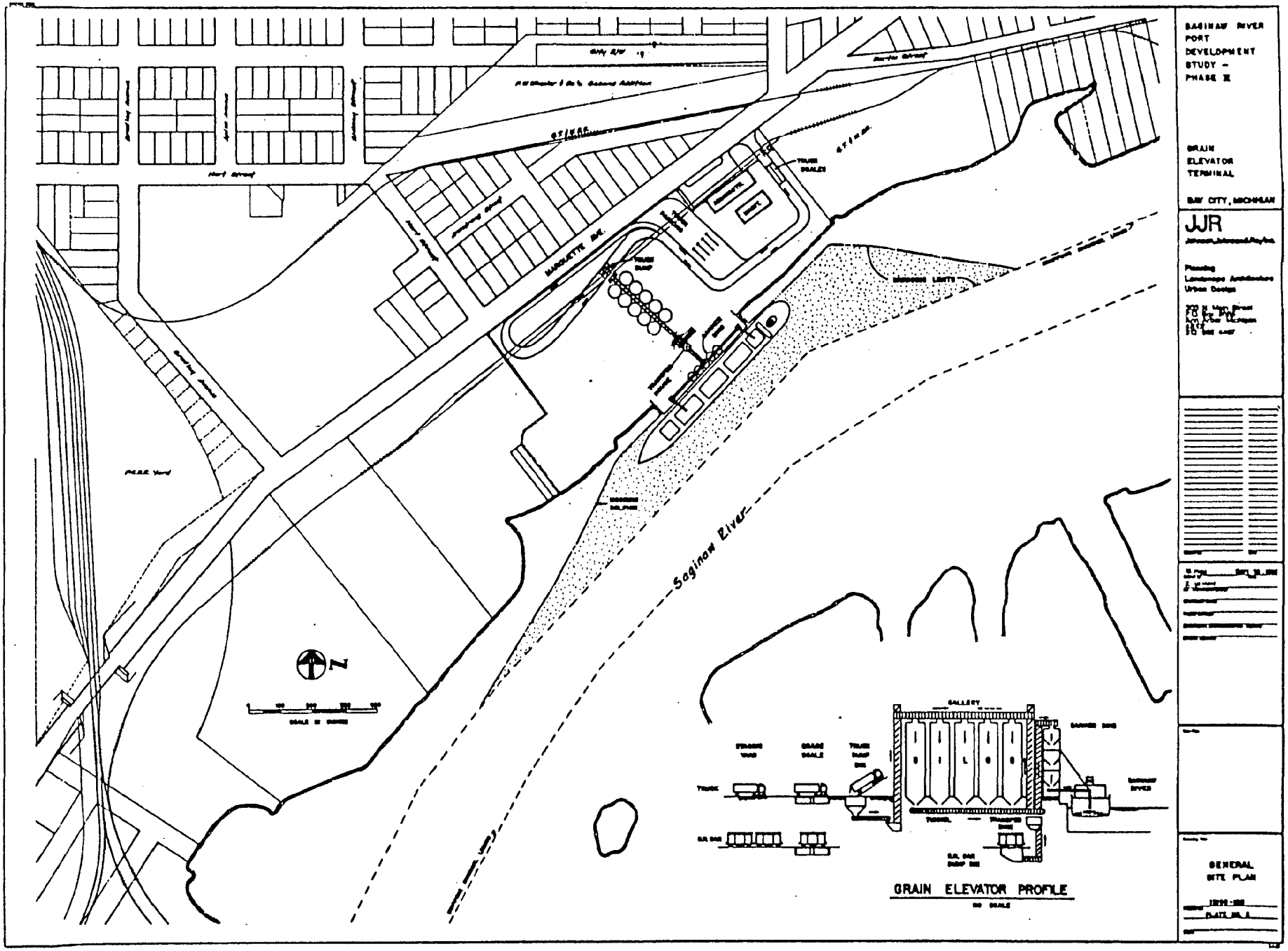
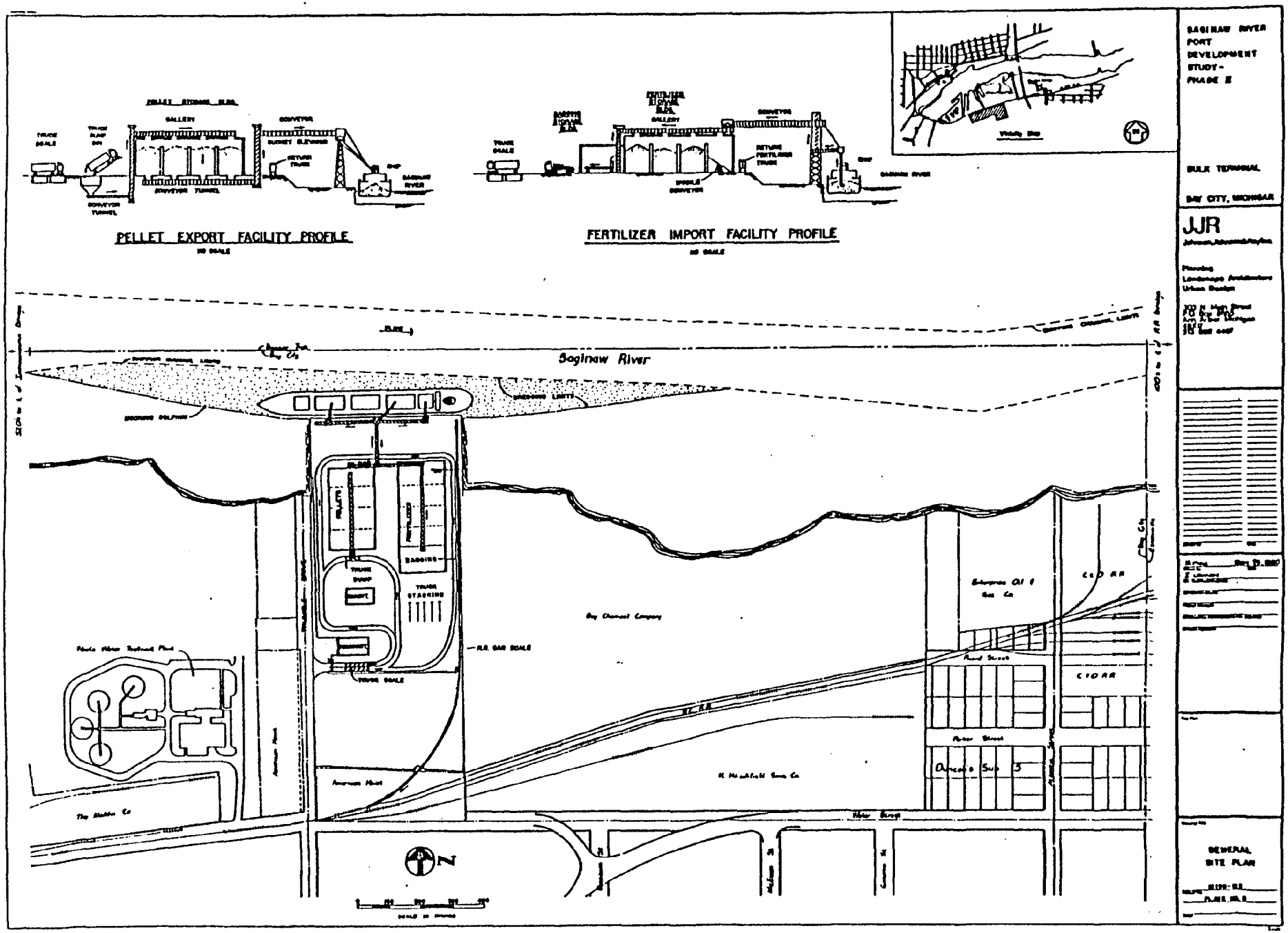


FIGURE IV-4

GENERAL SITE PLAN - BULK TERMINAL



In order to use the Fletcher site most advantageously, it is assumed that rail car loading and unloading will be done at the inshore end of the elevator adjacent to Marquette Avenue, to utilize a straight-through track alignment that will facilitate handling unit trains. Loading and unloading of trucks can be accomplished at either end of the elevator. Vessel loading facilities will use an elevated gallery the length of the berth with gravity spouts to reach all hatches without vessel shifting, maximum combined loading rate, 45,000 bushels per hour. The supporting structure will be the lowest-cost alternative, bulkhead, caissons, or piling.

The flow of grain through the elevator is shown in Figure IV-5. The estimated staff of the elevator, based on information obtained for a comparable-sized public facility at Brownsville, Texas is as follows:

1	Manager	1	Superintendent
2	Office Clerical	1	Foreman
3	Maintenance	1	Assistant Foreman
15	Permanent Operating Personnel		
12	Seasonal Operating Personnel		

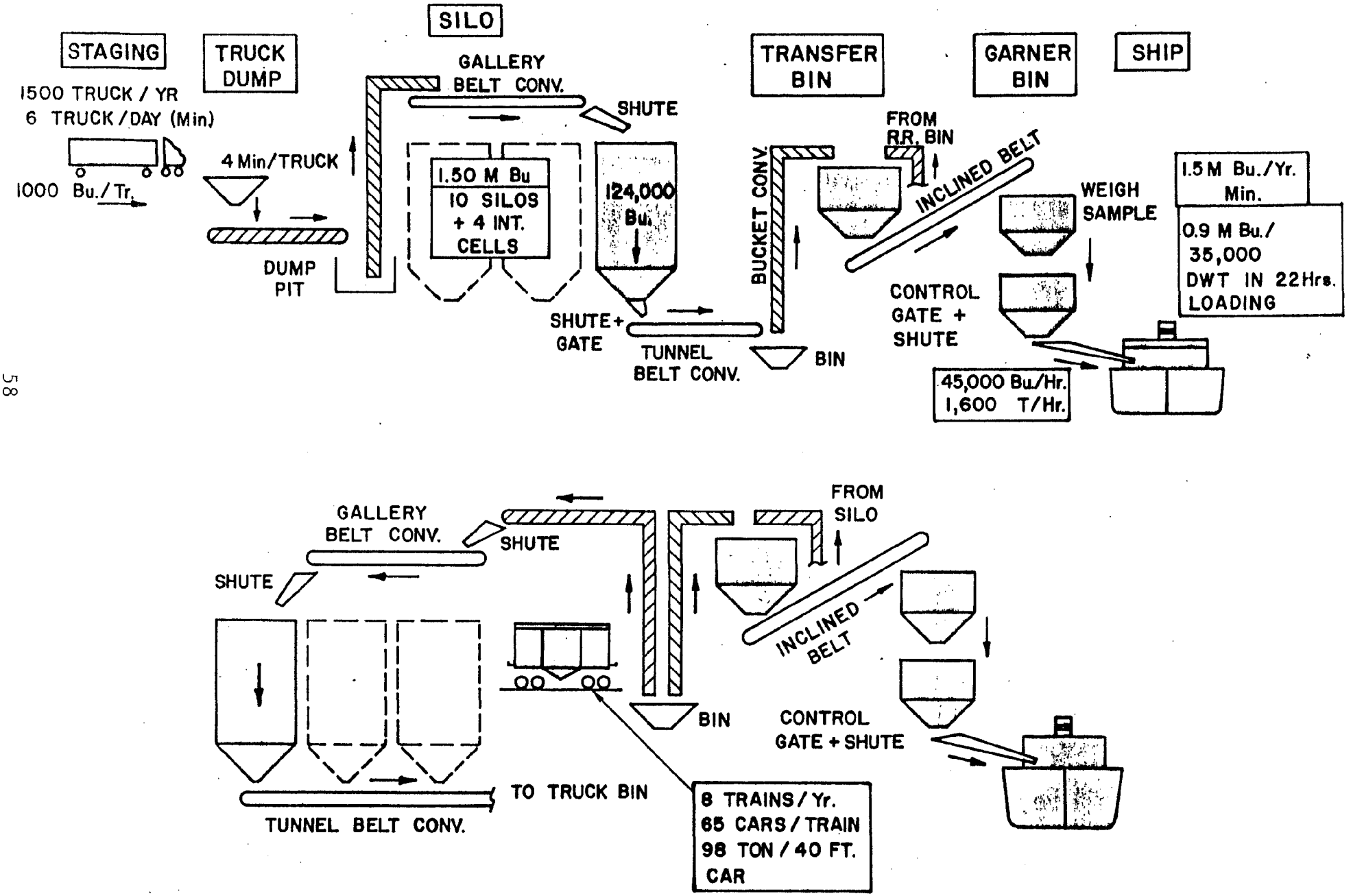
Operating personnel assignments as follows:

Operation	Receiving ex Truck	Receiving ex Rail	Loadout to Vessel	Loadout to Truck/Rail
Samplers	2	1	-	-
Runner	1	1	-	-
Graders	2	2	-	-
Dumper	2	2*	-	-
Scale(s)	3	1	2	2
Gallery	1	1	1	1
Distributor	1	1	1	1
Headhouse	1	1	1	1
Spouts	-	-	3	2
Car Pull	-	1	-	1
Cleanup	2	2	2	2
Per Shift	15	13	10	10

*Bottom dump cars. Alternately, 5-man power-shovel teams.

FIGURE IV-5

FLOW CHART - GRAIN ELEVATOR



The Brownsville operation is based on single-shift operation, no more than two simultaneous operations. A 15 million bushel per year volume at Bay City would likely require two-shift operation several months per year.

In addition to elevator personnel, directly related employment includes grain inspectors (3 as needed) and vessel trimming crews (5 per spout as needed). The combination of permanent, part-time and full-time employment for the Bay City elevator is estimated to be the equivalent of 40 full-time jobs.

Bulk Terminal. Estimates of dry bulk fertilizer receipts and feed exports were shown on page 128 of the Phase I study. Estimates of available facility capacity to handle these two commodities were shown on pages 137 and 138, respectively. A summary of these estimates and the indicated facility needs is as follows: (Tons per year)

	1990	2000	2020
Feed Exports	50,000	90,000	90,000
Present Facilities	30,000	30,000	30,000
Expected Facilities	30,000	30,000	30,000
Needed Facilities	- 0 -	30,000	30,000
Fertilizer Received	75,716	213,262	267,818
Present Facilities	-	-	-
Expected Facilities	75,000	150,000	150,000
Needed Facilities	- 0 -	63,262	117,818

Two possibilities were considered in sizing the bulk terminal: (1) as a prototype for the proprietary facilities expected to be built, or (2) as the multiple-user additional facility for which there is an indicated need starting in 2000. Under either scenario, the prospective volume for the facility would be about 100,000 tons per year initially, with ultimate expansion to 150,000 to 180,000 tons per year.

Accordingly, it was decided that the most useful design would be for a multi-purpose facility that could handle and store both feeds and fertilizers since the storage space requirements are similar under different scenarios. Four of these scenarios are shown below: (Quantities in tons)

Scenario #/Commodity		Annual Volume	Turnover	Storage Required
#1	Feeds	30,000	3X	10,000
	Fertilizers	75,000	5X	15,000
	Total 1990 Expected (Proprietary) Facilities			25,000
#2	Feeds	30,000	3X	10,000
	Fertilizers	63,262	5X	12,652
	Total 2000 Needed (Additional) Facilities			22,652
#3	Feeds	60,000	3X	20,000
#4	Fertilizers	150,000	5X	30,000

The optimal facility is one long and narrow clear-span building parallel to the vessel berth, connected to a solid fill or free-standing wharf with a wide apron where a moveable loading tower can reach all holds of the vessel and/or a moveable or mobile crane can reach all holds. Movement between storage and wharf is by one reversable or two conveyors, or alternately by vehicles. A dockside hopper would receive cargo discharged by self-unloading vessels. A single reversable conveyor in the peak of the building, with interior elevating legs fed by mobile equipment -- plus cargo doors -- provides for movement into and out of storage.

There have been numerous variations of the small bulk plant concept in other ports -- purpose-built facilities in Savannah for fertilizers and clay, in Brownsville for fertilizers and feeds, in Galveston for sugar, and conversions of general cargo transit sheds in New Orleans for feeds. The

Bay City facility shown in Figure IV-4 reflects certain site constraints. The flow chart for the facility is shown in Figure IV-6.

It is assumed that all feed exports will be received by truck and loaded to general purpose "salties", that virtually all fertilizers will be received from a combination of vessels -- barges, self-unloading lakers, and some "salties" -- with about 80% of fertilizers delivered out via truck, with the balance rail. Based on 30,000 tons of feeds, 70,000 tons of fertilizers, indicated annual traffic would be 5,700 trucks, 250 rail cars, 20 vessels. Based on the Brownsville bulk plant, estimated staff would be:

1 Manager	1 Foreman
2 Clerical	2 Maintenance

5 to 30 operating personnel as needed

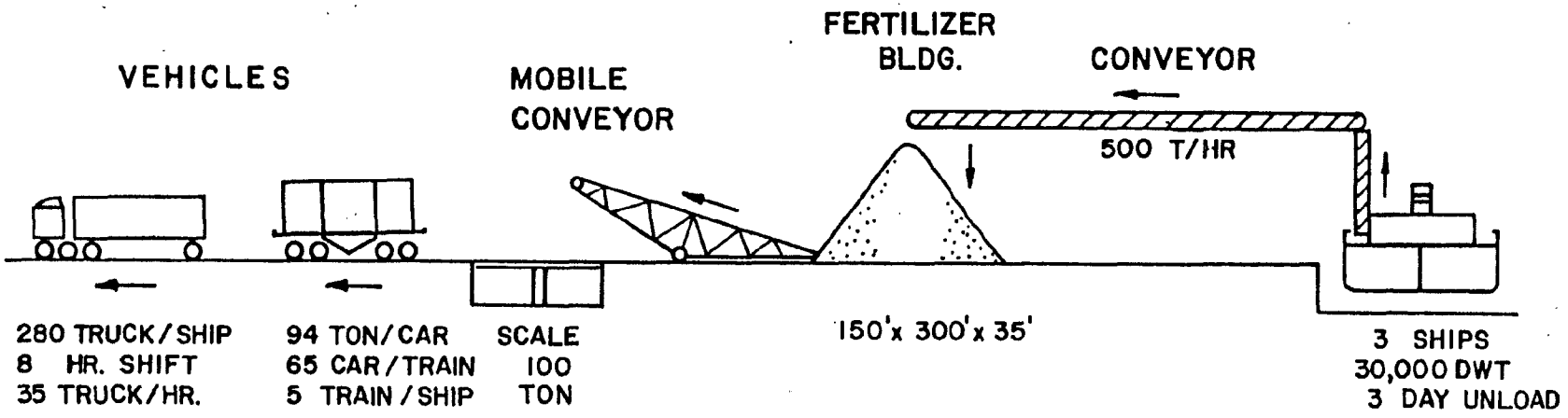
Financial Analysis

A definitive determination of the feasibility of the two proposed port facilities can only be made based on the specific requirements of a specific prospect related to a specific site -- and would likely require the sharing of proprietary data. This study is a pre-feasibility analysis to define the financial parameters, so that contact with potential prospects will be realistic and productive. It is based on generally available information.

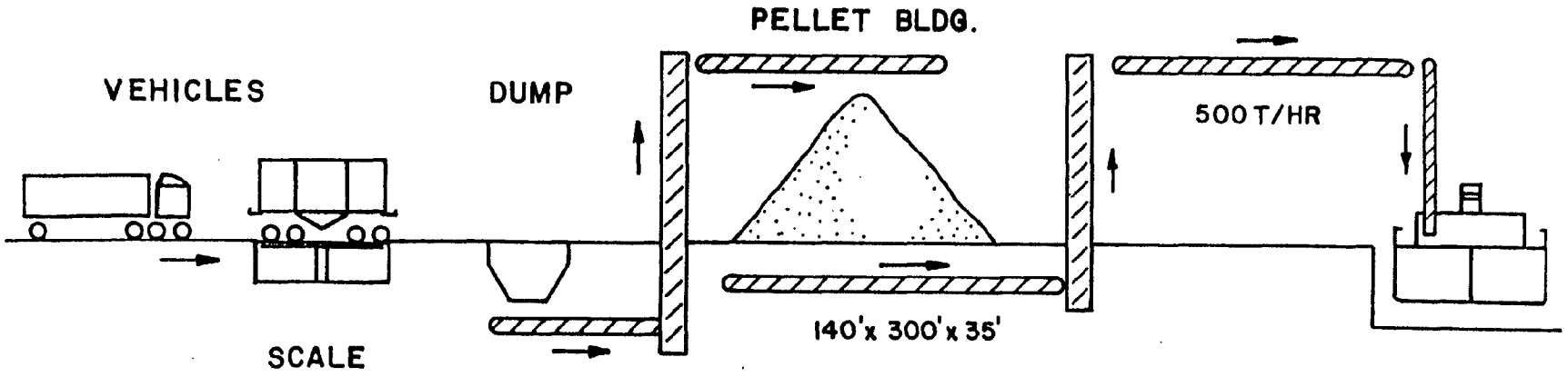
Grain Elevators. In the past decade, virtually all U.S. port elevators have been built with public financing, for operation by major grain firms. In part, the public financing reflects the capital intensiveness of elevators, and the marginal return on investment in the facility per se. In part, it is due to the fact that when most elevators are

FIGURE IV-6

FLOW CHART - BULK TERMINAL



FERTILIZER



PELLET

publicly financed, the others need to be, to have competitive costs. The predominantly private operation is due to the fact that a major company automatically has a volume of business for a new facility. Also, the blending of grains within the elevator is its most profitable aspect, and the advantages are lost in a true public facility. Because of the public financing of elevators, their construction costs are public knowledge. Recent construction has cost about $5 per bushel of storage capacity. The Burns Harbor elevator under construction by Cargill is expected to cost $18 million for 3.4 million bushels of capacity. On the same unit cost basis the Bay City elevator would cost $7.9 million, versus the Phase I estimate of $7.5 million (page 104). Because of the private operation of most export elevators, virtually all operating cost information is proprietary. The sole publicly-owned, publicly-operated export elevator is at Brownsville, and information for this elevator is shown.

Table IV-1 shows an itemized cost estimate for the Bay City elevator prepared for this study. The indicated cost is $14.82 million, or almost $10 per bushel of capacity. The Brownsville elevator has a present capacity of 3 million bushels storage, built in increments with an overall cost of about $2.25 per bushel, and handled an average of 14.5 million bushels per year in the past five years. Although somewhat larger than the proposed Bay City facility, its operating results are believed relevant. A five year summary is shown in Table IV-2.

TABLE IV-1

COST ESTIMATE SUMMARY - GRAIN ELEVATOR

(not including site acquisition cost)

SILOS - 10 UNITS W/ INTERSTICIAL CELLS	$3,550,000
VERTICAL / HORIZONTAL CONVEYORS	6,500,000
RAILROAD CAR DUMP BIN	81,700
RAILROAD CAR SCALE	90,000
RAILROAD TRACK	127,000
TRUCK DUMP BINS	163,000
TRUCK SCALES	180,000
DEEP FOUNDATIONS	1,630,000
GENERAL EARTHWORK	194,000
PAVING	117,300
UTILITIES	173,600
FENCE	46,300
DOCK	527,000
DREDGING	482,000
ADMINISTRATION BLDG.	510,000
GUARD HOUSE	10,000
MAINTENANCE	440,000
TOTAL =	$14,821,900

TABLE IV-2

BROWNSVILLE PUBLIC ELEVATOR OPERATING RESULTS
(1975-1979 Average Volume, Revenues, Expense)

	Total	Per Bu.
Volume	14,505,492	-
Gross Revenues	$ 1,232,000	8.49¢
Operating Expense	560,000	3.86¢
Operating Margin*	$ 672,000	4.63¢

*Does not include indirect and administrative expense, depreciation or debt service.

Estimates of the Brownsville expenses are shown in Table IV-3, based on recent experience projected to one year.

TABLE IV-3

BROWNSVILLE PUBLIC ELEVATOR ESTIMATED ANNUAL EXPENSES

Direct Labor		Other Direct Costs	
Wages	$262,000	Materials	$ 44,000
Fringes	88,000	Contract Repair	12,000
	$350,000	Fumigation	36,000
Indirect Costs		Inspections	60,000
Wages	$106,000	Equip. Use	34,000
Fringes	22,000	Electricity	64,000
Prop. Ins.	2,000	Bldg. Ins.	38,000
Liab. Ins.	18,000	Content Ins.	50,000
Shrink Res.	92,000		$338,000
Misc.	20,000		
	$260,000	Depreciation	$122,000
Total Estimated Expense		$1,070,000	
Total Expected Revenues		1,660,000	
Cash Flow for Debt Service		$ 712,000	

Similar to elevator expenses, elevator revenues are built up from a number of charges in addition to the basic rates for elevation, delivery and storage (respectively 3¢ per bushel in, 3¢ to 3½¢ per bushel out, and 1/10¢ per bushel per day after 10 days free time at Brownsville). A rough estimate of the Bay City elevator revenues based on 15 million bushels per year related to Brownsville revenues is $1.275 million. Since revenues may be even more sensitive to site specific conditions than expenses, the assumption has been made that Brownsville's average net revenue per bushel handled (i.e., cash flow after direct and indirect expense, but before depreciation) will provide a more realistic indication of the Bay City's facility to service debt. On the basis of a cash flow of 3.5¢ per bushel handled, and an annual volume of 15 million bushels, the Bay City elevator could produce $525,000 per year as return on investment.

Currently, 9% interest, 20-year money, is probably the best available elevator financing via tax-free revenue bonds. That requires equal annual interest and amortization payments of 11.746% of the issue. When interest rates were lower and 30-year money was available 8% would amortize. Based on the $14,821,900 estimated cost of the conceptual elevator design, 9% 20-year money would produce annual charges of $1,740,980. Alternately, a $7.5 million investment with 9% 30-year money would produce charges of about $587,498.

Bulk Terminals. The fact that there are numerous public and privately-owned bulk terminals means there are more cost figures available. Unfortunately, very few of those terminals are similar to the proposed Bay City facility.

The Brownsville terminal is comparable. It has a 100,000 square foot warehouse with a 250 ton-per-hour conveyor system connecting with the wharf. That facility therefore has more storage, and about half the handling speed of the design prepared for this study. The Brownsville facility cost about $1 million fifteen years ago. Escalating for inflation, that indicates a current reproduction cost of about $4 million. The itemized cost estimate of the Bay City facility, shown in Figure IV-4, is $11.9 million.

Since the Brownsville bulk plant was built and is operated in conjunction with the grain elevator, some facility components and staff are shared. Despite this, operating profits have been nominal because of low volume. The terminal volume averages in the area of 50,000 tons, or about half the meal and fertilizer shipments in the area because some meals and most fertilizers are handled via proprietary or other port facilities. As a result, the principal revenues from the facility to provide a return on investment are wharfage and dockage revenues produced by the cargos handled. These revenues range around $1 per ton, depending on the type vessel served. Contact with other ports indicates that the operating characteristics and financial results are more-or-less representative.

Accordingly, $1 per ton has been assumed as the likely cash flow of the Bay City facility available to recover investment. Based on annual throughput of 100,000 tons, and 9% interest plus amortization, the $100,000 could support an investment of only $851,354. Even with a drastic scale-down of the concept, this facility appears unlikely to be financially viable as an independent enterprise. As a proprietary facility that offers additional benefits in

TABLE IV-4

COST ESTIMATE SUMMARY - BULK TERMINAL

(not including site acquisition cost)

RAIL LOADING CONVEYOR	$ 120,000
RAILROAD SCALE	90,000
RAILROAD TRACK	67,200
TRUCK DUMP BINS	163,000
TRUCK SCALES	180,000
STORAGE YARD	108,800
PAVING	114,600
CONVEYORS	3,282,000
DEEP FOUNDATIONS	441,000
GENERAL EARTHWORK	120,000
UTILITIES	445,000
FENCE	67,800
DOCK	1,627,600
DREDGING	116,200
SUB TOTAL	$ 6,943,200
GUARD HOUSE	10,000
ADMINISTRATION BLDG.	360,000
MAINTENANCE BLDG.	360,000
PELLET BLDG.	1,638,000
FERTILIZER BLDG.	1,822,500
BAGGING BLDG.	720,000
SUB TOTAL	$ 4,910,500
TOTAL	$ 11,853,700

corporate marketing and provides storage and processing space that would otherwise be needed, it is possible that it could be viable.

Findings

The conceptual designs for an export grain elevator on the Fletcher Oil property and a multi-purpose bulk terminal on the Newcor property at Bay City indicate both facilities would be physically feasible, compatible with adjacent land uses, and consistent with more intensive use of the waterfront. The facilities would create employment opportunities equivalent to approximately 50 full-time jobs, and provide transportation cost savings that would be beneficial to users. The two sites are presently under-utilized, and construction of either or both facilities would be desirable to anchor future commercial waterfront development on the Saginaw.

The economic analysis of the two facilities based on the conceptual design and preliminary cost estimates indicates that the grain elevator could be a viable enterprise, and that except as an integral part of a proprietary distribution system, the bulk terminal would not be. The realities of port facilities are that the transportation savings and other benefits that they produce do not flow through commensurate with the cost of the facility, and this report does not recommend building money-losing facilities. This report does not find that development of the Saginaw is impossible, just difficult.

The facility concepts should be used as a sales tool to find the combination of public and private enterprise that will make these facilities viable. Based on the

indicated demand in Phase I and the fact that elevators and bulk plants are being built at other ports, the analyses should not be used to dismiss the potential of port development on the Saginaw. It is evidence that port development requires a multi-year sustained effort.

The Port of Burns Harbor has been the subject of such a sustained development effort. The port has finally attracted an elevator, and is expected to announce a bulk plant soon. The following release by the Indiana Port Commission is evidence of the rewards.

Grain facility at Port means new commerce, jobs

New construction at the Port of Indiana may soon allow farmers within a 100-mile radius of the Port to ship grain throughout the world. The Port, which opened in 1973, has continually grown with more than one million tons of ship and barge cargo handled in 1978. 10% more tonnage is predicted for this season which will end with the winter freeze on the Great Lakes in December.

The Port Commission recently concluded an agreement with Cargill, Inc. of Minneapolis for construction of an export grain terminal, estimated at a cost of $18 million and construction scheduled to begin this summer. In order to simultaneously expand necessary public-use facilities such as additional docks, internal road and railway trackage, the Port Commission has applied to the EDA (Economic Development Administration) for a $2.55 million grant over the next two years.

Approval of the EDA grant has been endorsed by Dick Lugar, and other regional representatives who cited the Port expansion as an excellent opportunity for increased employment in northwest Indiana. This will provide a favorable impact on the state's farmers and transportation industry and provide a means for expanded American exports, while reducing wasteful energy consumption.

Indiana farmers and grain shippers within a 100-mile radius would benefit by receiving a higher net price for their products than they receive by present marketing routes. Net income gained for the farming sector is estimated at $2 million to $2.75 million per average year for each of the first 5 operating years. The 100-mile radius includes an area bounded by Lafayette, Goshen, Kalamazoo, Michigan, and Peru/Salem, Illinois.

Additionally, the port facility would also bring good employment news in the Gary/Burns Harbor area with an additional workforce of 40-50 persons engaged in the transportation of grain. Related shipping activities such as banking, insurance, ship chartering and customs activities which are now concentrated in the Chicago area could also provide an economic boost to northwest Indiana.

Appendix A. Lorain Port Authority Policies and Programs

THE LORAIN PORT AUTHORITY

LORAIN, OHIO

POLICY AND WORK PROGRAM
FOR
1980

APPROVED BY BOARD OF DIRECTORS
SUBJECT TO REVISIONS OF COUNCIL

December 11, 1979

CONTENTS

THE LORAIN PORT AUTHORITY

A. THE PURPOSE:

The Lorain Port Authority was authorized by Lorain City Council in 1964 to work as an agent of the State of Ohio and the City of Lorain. By virtue of the creation of the Lorain Port Authority, broad powers were granted under the Ohio Port Authority Act.

The Port Authority is governed by a nine-member Board of Directors who are appointed by the Mayor with the consent of City Council. The Board of Directors employ two full-time persons to assist them in the discharge of their duties and powers.

The Board of Directors may act in a variety of ways to promote the Port of Lorain and facilities in Lorain. They seek to more fully utilize the water which is a great asset to the residents of Lorain. To accomplish that job, State and local laws permit the following:

A. The purchase, lease, sale, or construction of lands and/or facilities such as terminals, docks, wharves, marinas, or other recreational facilities on or in the water;

B. The improvement of waterways for navigation;

C. Issue bonds to fulfill its purpose, and assist other users of the waterways of Lorain.

D. Establish, operate, and maintain foreign trade zones;

E. Exercise the power of eminent domain necessary to accomplish its purpose; and

F. Exercise many other powers similar to the City of Lorain for the greater benefit and use of the waterways of Lorain.

The activities of the Lorain Port Authority are guided by an overall Development Plan; however, it is necessary to periodically revise the plan. The plan serves only as a broad set of long-term goals for the City of Lorain and the Board of Directors feels it must think more specifically about its annual activities. By doing so, a work program is formulated within the parameters of the law and basic plan. Certainly there will be unexpected events with which the Board of Directors will have to cope; however, with a well-defined set of policies, it can make sound decisions in the best interests of Lorain.

B. THE POLICIES:

1. Planning and Administration

The Lorain Port Authority determines to maintain and contribute to economically viable plans, revised from time to time, to keep pace with the needs of industry and the citizens of Lorain. Furthermore, it determines to conduct its business in a manner that will bring credibility, trust, and success to itself, the City Administration, City Council, and the citizens of Lorain which it serves.

2. Lands and Properties

The Lorain Port Authority determines to maximize the use and service of all water-related properties in the best interest of the economy, industry, commerce, and the overall needs of the citizens of Lorain, and to safeguard those properties.

3. Facilities

The Lorain Port Authority determines to promote, plan, and develop water-related facilities that meet the needs of industry, commerce, and the recreational needs of the citizens of Lorain.

4. Promotion and Competition

The Lorain Port Authority determines to make the Port of Lorain a significant and competitive port-of-call for the greater benefit of the economy, industry, commerce, and citizens of the City of Lorain.

C. THE PROGRAM

I. Planning and Administration

A. Planning and Programming

1. Evaluate, revise, and update the overall Development Plan.
2. Complete the programming for Year 2 of the Marine Patrol for the greater security of port users.
3. Prepare and seek funding on any proposals or programs identified in the update of the revised plan that have merit to the residents of Lorain, and its industry.
4. Provide any data, perform any survey, and generally contribute to the rapid progress of the Corps of Engineers' Study for Navigation Improvements.
5. Identify bulk cargo, not presently transshipped, which is feasible to ship into and from the Port of Lorain, and develop a proposal to do so. Particular attention will be given to coal.
6. Secure funding, and construct a floating tire breakwater.
7. Complete study to design and derive costs of Phase I Small Boat Harbor, and apply for construction funds.
8. Secure funding and begin analysis of coal blending in Port of Lorain.
9. Continue efforts to rehabilitate West Breakwater and remove West Pier.

B. Administration

1. Maintain maximum communication with the Mayor, his administration, City Council, local State and Federal elected officials in the exercise of duties.
2. Perform usual and special duties including maintenance of minutes of meetings, fiscal records, etc., and other functions as advised by the Board of Directors.
3. Perform any audits required by appropriate laws, regulations, or as advised by the Board.
4. Continue the amortization of bonds used in financial assistance to American Ship Building Company and Ashland Oil, Inc., and possible new issues.
5. Maintain legal advice and guidance in the conduct of duties.
6. Monitor, provide, and coordinate information regarding scheduling, cargo, and shipping data.
7. Maintain close cooperation with the Harbormaster, Coast Guard, or other Great Lakes agencies concerning the well-being of the Port of Lorain.
8. Continue the administration of a Marine Patrol Program. (i.e. funding, reporting, operations).
9. Maintain and improve communication with all port users and serve as their liaison in all necessary matters.

II. Lands and Properties

A. Maintain an inventory of property information for response to potential industrial and recreational users.

B. Aggressively, work toward and assist in the sale, lease, or rental of property which contributes to the economy of Lorain and meets the recreational needs of the citizens. Such assistance may include the issuance of bonds to finance a project.

C. Provide assistance and bonding capacity to existing port users to expand and enhance existing industry and jobs.

D. Cooperate with the Mayor, Council, and Planning Commission to assure compatible land use development.

E. Identify a potential site for coal blending, analyze facility requirements, and pursue development.

F. Work closely with steelmakers to determine an overall plan for taconite transfer.

G. Work to improve recreational boating opportunities and facilities.

III. Facilities

A. Industrial/Commercial

1. Maintain an inventory of existing commercial facilities, additional needs and requirements, receipts and shipments of materials or products, and work to expand facilities and production.

2. Identify equipment and facilities that could transship a variety of bulk cargoes, and be available and flexible enough to handle demands for general cargo transshipment. Consider the market for such a facility, develop a financing plan, and consider its operation.

3. Others, as reviewed.

B. Recreational

1. Continue to work with the Mayor and Council toward the development of a small watercraft basin.

2. Input to the Corps of Engineers' study any and all data for a better understanding and plan for recreational boating improvements.

3. Continue to maintain the ramps at Marine Beach for the benefit of fishermen and recreational boaters.

4. Through a Marine Patrol Program, provide additional security and safety to the users and their property in Lorain waters.

5. Others, as reviewed.

IV. Promotion and Competition

A. Determine the best way to cost-effectively promote and advertise the facilities, lands, and water of the City of Lorain.

B. Place selected advertisements in trade journals and directories.

C. Compile a list of potential port users through available sources, launch a direct mail campaign, and follow-up to sell the features, services, and capabilities of the Port of Lorain.

D. Develop and maintain an understanding of the marketplace, inventory other port facilities and services, and effectively compete in the capture of trade.

E. Support the development of other modes of transportation to enhance the Port of Lorain as a major transshipment center.

F. Work with and through effective organizations for the betterment of the Port of Lorain, and water-borne commerce.

G. Advocate Federal and State aid for the Port of Lorain and secure the same for projects and programs.

H. Promote a greater awareness of the economic significance of the Port of Lorain to the Local and regional economy.

I. Others, as reviewed.

LORAIN PORT AUTHORITY

1980 BUDGET

ACCOUNTS:

101.	Salaries	$36,000.00
102.	Fringes	9,200.00
103.	Supplies	1,500.00
104.	Utilities	2,000.00
105.	Dues and Publications	1,500.00
106.	Promotion/Port Development	3,500.00
107.	Travel and Education	6,540.00
108.	Contract Repairs/Services	7,000.00
109.	Equipment	1,000.00
110.	Miscellaneous Contingencies	1,100.00
	Total:	$69,340.00
	Less Anticipated 1980 Income:	24,600.00
		$44,740.00

Appendix B. Corps Notice of Public Workshops

DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
BOX 1027
DETROIT, MICHIGAN 48231

ANNOUNCEMENT!
of
PUBLIC WORKSHOP SESSION

ALTERNATIVE CONFINED DISPOSAL SITES FOR PLACING DREDGED MATERIAL FROM MAINTENANCE OF THE NAVIGATION CHANNEL SAGINAW RIVER

WHY?

To encourage an interchange of information, and solicit the opinions of citizens and organizations concerning the site for disposal of material maintenance dredged from the federal channel in the Saginaw River.

WHO SHOULD ATTEND?

Anyone interested in the site for disposal of material maintenance dredged from the federal channels in the Saginaw River.

WHERE AND WHEN?

Council Chambers
City Hall
301 Washington Street
Bay City, Michigan
Thursday, 28 August 1980
7:30 p.m.

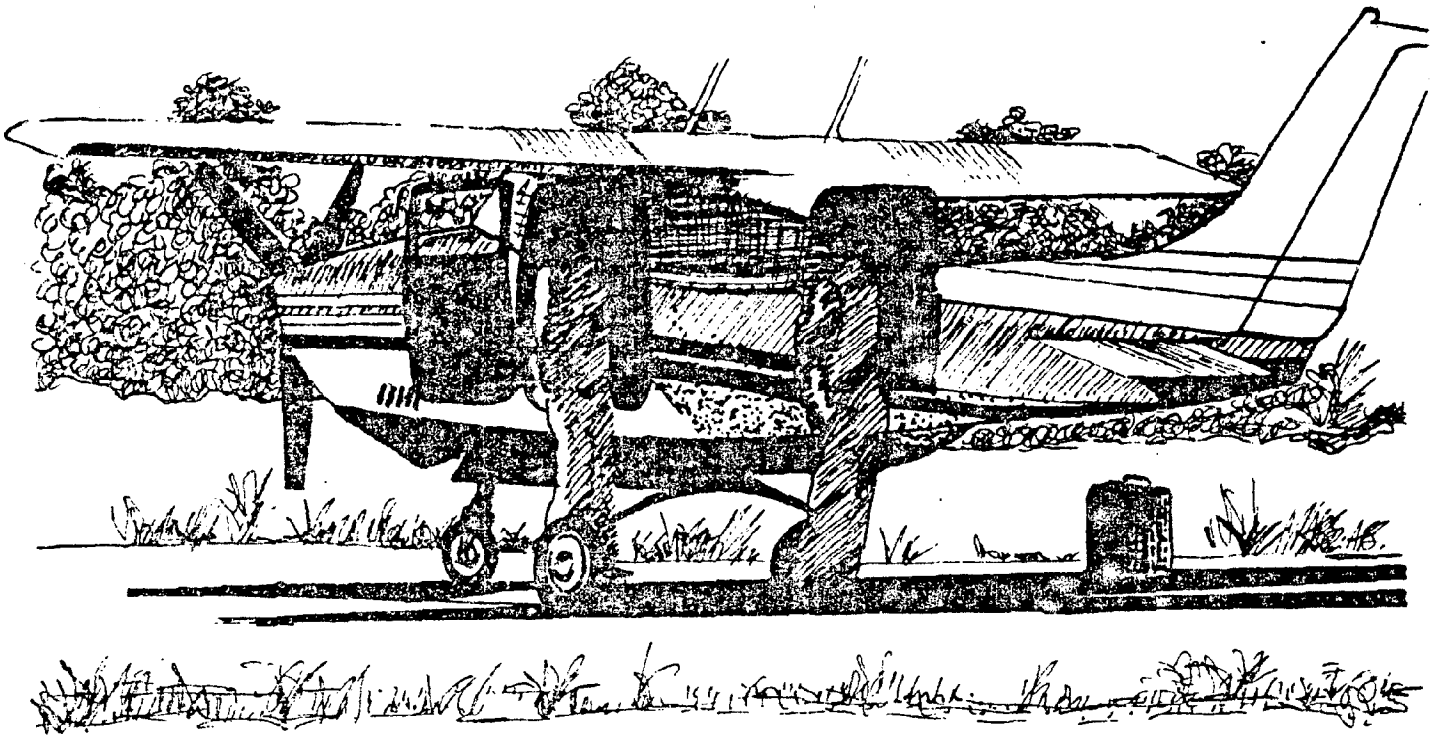
For additional information contact:
Neal Gehring (313) 226-6793

A workshop brochure is attached for your information

"THE CORPS CARES"

WORKSHOP BROCHURE

Alternate Confined Disposal Facility Sites for Upper Saginaw River Diked Disposal Project



U.S. Army Engineer District

Detroit, Michigan

July, 1980

WORKSHOP BROCHURE FOR THE UPPER SAGINAW RIVER CONFINED DISPOSAL FACILITY SITE SELECTION

1. DESCRIPTION OF THE PROJECT AREA

The Saginaw River drains the east-central part of the lower peninsula. It flows into the southwest corner of Saginaw Bay, the largest indentation along the west shore of Lake Huron. The Bay has an entrance width of 26 miles between Point Aux Barques and Au Sable Point, and a length of 51 miles running southwest from the entrance to the mouth of the Saginaw River.

The Saginaw River begins at the confluence of four large tributary rivers, the Cass, Flint, Shiawassee, and Tittabawassee Rivers, near the southerly city limits of Saginaw, flowing northerly for about 22 miles into the Bay. Its normal width varies from 400 to 800 feet through the City of Saginaw, to about 1,000 feet wide between Saginaw and Bay City. Downstream from Bay City, the river widens in places to 2,000 feet. The river is typically bordered by low marshy areas throughout its length.

The Saginaw River and tributaries serve urban areas populated by approximately a million persons. The major industries in the Saginaw-Bay City area along the Saginaw River dependent on water transportation are the Consumers Power Company power plants, a shipyard, a cement company, a grey iron foundry, grain elevators, petroleum refineries and tank farms, chemical plants, and coal and construction materials docks.

2. STATUS OF PROJECT MAINTENANCE DREDGING

The Saginaw Bay entrance channel is maintained to a depth of 27 feet and a width of 350 feet from the 27-foot contour in Saginaw Bay to the river mouth. The river channel varies in width and depth from 26' and 25' at Bay City and then 22' upstream to Saginaw, to an upstream limit at Green Point, west of Saginaw. The Environmental Protection Agency (EPA) has categorized this area as a "harbor wherein the material to be dredged contains polluted wastes; however, maintenance of these harbors is essential to the economy of the port and surrounding region." By 1969, testing by the Environmental Protection Agency had established that dredged material from the entire river portion of the project as unsuitable for open water disposal. Subsequently, dredged material from the river, upstream of the Belinda Street Bridge has been placed in a confined disposal facility (CDF) at Middle Ground Island. However, between 1969, when maintenance dredging was halted, and 1978, when the Saginaw Bay (CDF) construction was completed, no maintenance dredging was performed downstream from the Belinda Street Bridge. Since 1978, the entire project has been maintained regularly. Now, the use of the existing CDF on Middle Ground Island is being phased out by Bay City to make room for the development of a large recreation complex. A new CDF is therefore required to replace the Middle Ground Island CDF which could be constructed under the authority of Public Law 91-611.

3. NEED FOR CONTINUED MAINTENANCE DREDGING AND THE PROPOSED PROJECT

Based on recent surveys conducted in the Saginaw River, the extent of the annual shoaling expected would be from 1 to 4 feet along the channel lines. The project is important to the national economy and vital to the local economy. Because of this project's large volume of waterborne commerce it meets the criteria established for maintenance, and is unquestionably justified.

The 1978 Waterborne Commerce statistics for Saginaw River report a total of 3,173,573 tons of freight. The principal commodities carried were limestone, coal and lignite, sand and gravel, grain, soybeans, and miscellaneous items. The project also contributes significantly to the recreational facilities of the area; however, the proposed maintenance is justified solely on the benefits to commercial navigation.

4. PUBLIC LAW 91-611

Section 123 of this law authorizes the Corps of Engineers to construct, operate and maintain disposal facilities to contain dredged material, unsuitable for open water disposal with sufficient capacity to contain material dredged over a 10 year period plus any backlog of material. The authority contains requirements for coordination and local cooperation which are discussed in subsequent paragraphs.

A. Characteristics and Quantities of Material to be Dredged. EPA standards and testing of sediments indicate that all the material to be dredged from the river portion of the project is unsuitable for open water disposal primarily due to the high levels of phosphorus, nitrogen, volatile solids, Chemical Oxygen Demand (COD), oil and grease, and PCB's. Physically, the material consists of soft deposits mostly composed of sand with some silt and clay. Wood chips and shells are also present. Most of the finer clay and silt materials are deposited further downstream and when dredged are placed into the Saginaw Bay CDF.

The total capacity required for the CDF is approximately 1,250,000 cubic yards (c.y.). This capacity would be sufficient for 10 years of dredgings at 100,000 c.y. per year an estimated backlog of 250,000 cubic yards. No substantial permit volumes are anticipated. A CDF similar, but larger than that at Middle Ground Island would meet these needs. Annual maintenance dredging in the Saginaw River channel has been performed economically by Government-owned-and-operated hopper dredges. This practice is expected to continue.

B. Coordination. The selection of confined disposal facilities must be coordinated with the U.S. Environmental Protection Agency, Michigan Department of Natural Resources, the U.S. Fish and Wildlife Service, and local governmental agencies. The selected site must be agreed upon by all agencies and have a local sponsor to provide the required items of local cooperation discussed below.

C. Requirements of Local Cooperation. Construction of a CDF is subject to the statutory provision that non-Federal interests enter into an agreement of local cooperation, as defined in Public Law 91-611. In the State of Michigan, local cooperation for navigation projects such as the Saginaw River CDF must be provided by the State. The major items of local cooperation required by the law to be provided are:

(1) Furnish all land, easements, and rights-of-way necessary for the construction, operation, and maintenance of the facility;

(2) Contribute to the United States 25 percent of the construction costs (This requirement has been waived by the District Engineer, Detroit District, Corps of Engineers, for the CDF constructed in the Bay, and is being considered for the river portion being planned. This means the CDF would be constructed at 100% Federal costs);

(3) Hold and save the United States free from damages due to construction, operation, and maintenance of the facility;

(4) Maintain the facility after completion of its use for disposal purposes in a manner satisfactory to the Secretary of the Army.

D. Interpretation of Public Law 91-611. Initially, legal interpretation of Section 123 of Public Law 91-611 stated that contained disposal facilities constructed under this law could not be located on private lands. The Congress of the United States intended that the land used for the purpose of spoil disposal be in public ownership, whether that public ownership be in fee, simple, or other acceptable form of title. Recent interpretations of PL 91-611, Section 123 now allows disposal on private property if, before construction, the land on which the CDF is to be constructed is conveyed to the State. The State, in turn, must be willing to provide the local cooperation previously discussed. Thus, privately owned sites can at least be considered during the site selection process.

5. USE OF PRIVATE SITES: AN ALTERNATIVE TO PUBLIC LAW 91-611.

Provided that adequate assurance that the unsuitable dredged material would not find its way back into navigable waters of the United States, and assuming all legal requirements applicable to permits and environmental impact statements would be satisfied, unsuitable dredged material may be placed upon private upland or privately owned submerged land. Placement of unsuitable materials on privately owned lands would require that the private owner provide the following:

a. Adequate diking, meeting the specifications of the District Engineer, to assure containment and retention of the unsuitable material.

b. Adequate docking facilities for pumpout of the material.

c. An effluent weir or other effluent facility.

d. Uninterrupted right to enter upon the lands affected and the use of all facilities required, without cost to the United States.

e. Waiver of any and all damages, or claims for damages, as a result of the use of the facilities, including the land areas.

f. An agreement from the owner to maintain the facility in a manner that would assure the retention of the unsuitable material in a manner satisfactory to the Secretary of the Army.

The Federal Government would assume the cost for the pipelines and pumping systems and any additional handling costs incurred over the cost of open lake disposal to transport the material to the site.

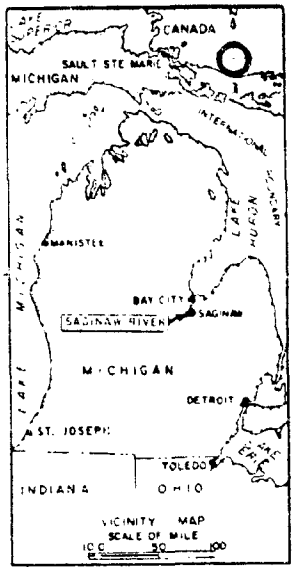
6. POSSIBLE SITES AND WORKSHOP PURPOSE

In May 1979, the Detroit District began to search for sites for a new CDF to replace the existing Middle Ground Island site, which is being phased out. Letters were mailed in July 1979 to the EPA, Michigan Department of Natural Resources, U.S. Fish and Wildlife Service, local governments, the news media, and others indicating our desire to coordinate the selection of a new disposal site, either under PL 91-611 or as discussed paragraph 5 above. Four sites have been identified for possible implementation as a CDF.

The four disposal sites considered thus far lie on or immediately adjacent to the Saginaw River and are located between the Carrollton Bar (a marshland ridge) to the south, and the Clements Municipal Airport to the north. Vegetation in this area ranges from marsh, to agricultural crops, to deep woods. The marsh areas along the river provide a vegetative buffer zone between the river and agricultural lands. The saturated soils throughout this region extend inland for approximately one mile and, for the most part, provide excellent wildlife habitat, particularly for waterfowl. A brief site specific description of each of the four sites is provided on inclosures 2-5.

The purpose of the workshop is to present the four alternative sites, obtain reactions to these alternative sites and to determine if other viable sites exist, prior to selecting any of the sites known at this time. If you know of any 20-40 acre sites located near the Saginaw River between Bay City and Saginaw, and you cannot attend the workshop, please contact the Project Manager, Mr. N. A. Gehring at the address on the letterhead or call at (313) 226-6793. Otherwise, please bring your ideas to the workshop.

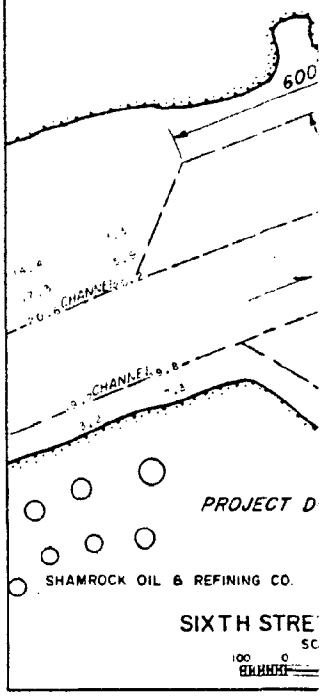
5 Incl.
1. Map of Area
2. Discussion and Sketch of Private Site No. 1
3. Discussion and Sketch of Private Site No. 2
4. Discussion and Sketch of S.E. Airport Site
5. Discussion and Sketch of N.W. Airport Site



LEGEND

INDEX TO BRIDGES
SHOWN THUS (12)

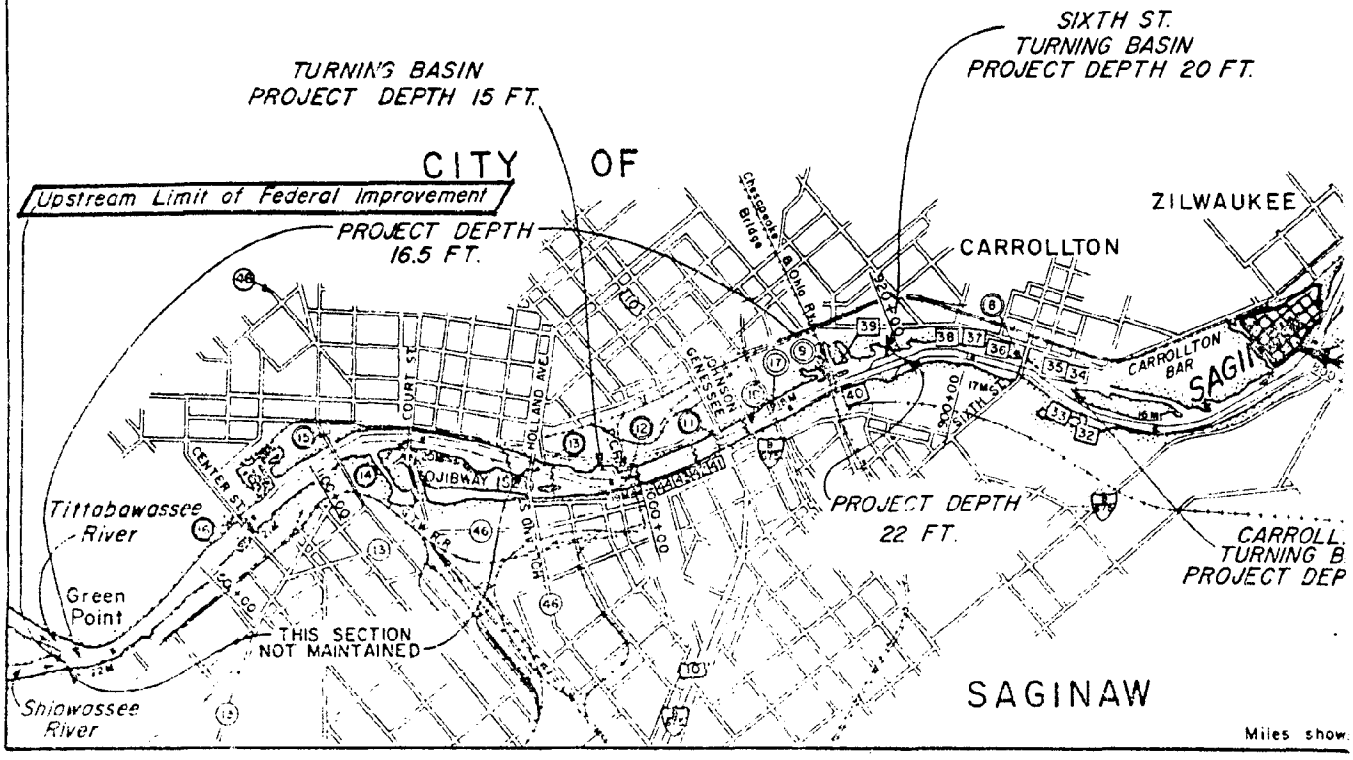
1. DETROIT & MACKINAC RY
2. BELINDA ST.
3. PENN CENTRAL R.R.
4. THIRD ST.
5. McKINLEY ST. MEMORIAL
6. LAFAYETTE AVE.
7. HIGHWAY 23 AT CROW ISLAND
8. SIXTH ST.
9. CHESAPEAKE & OHIO RY
10. JOHNSON ST.
11. GENESSEE AVE.
12. PENN CENTRAL R.R.
13. HOLLAND AVE.
14. COURT ST.
15. HIGHWAY 46
16. CENTER ST.
17. PROPOSED I-675

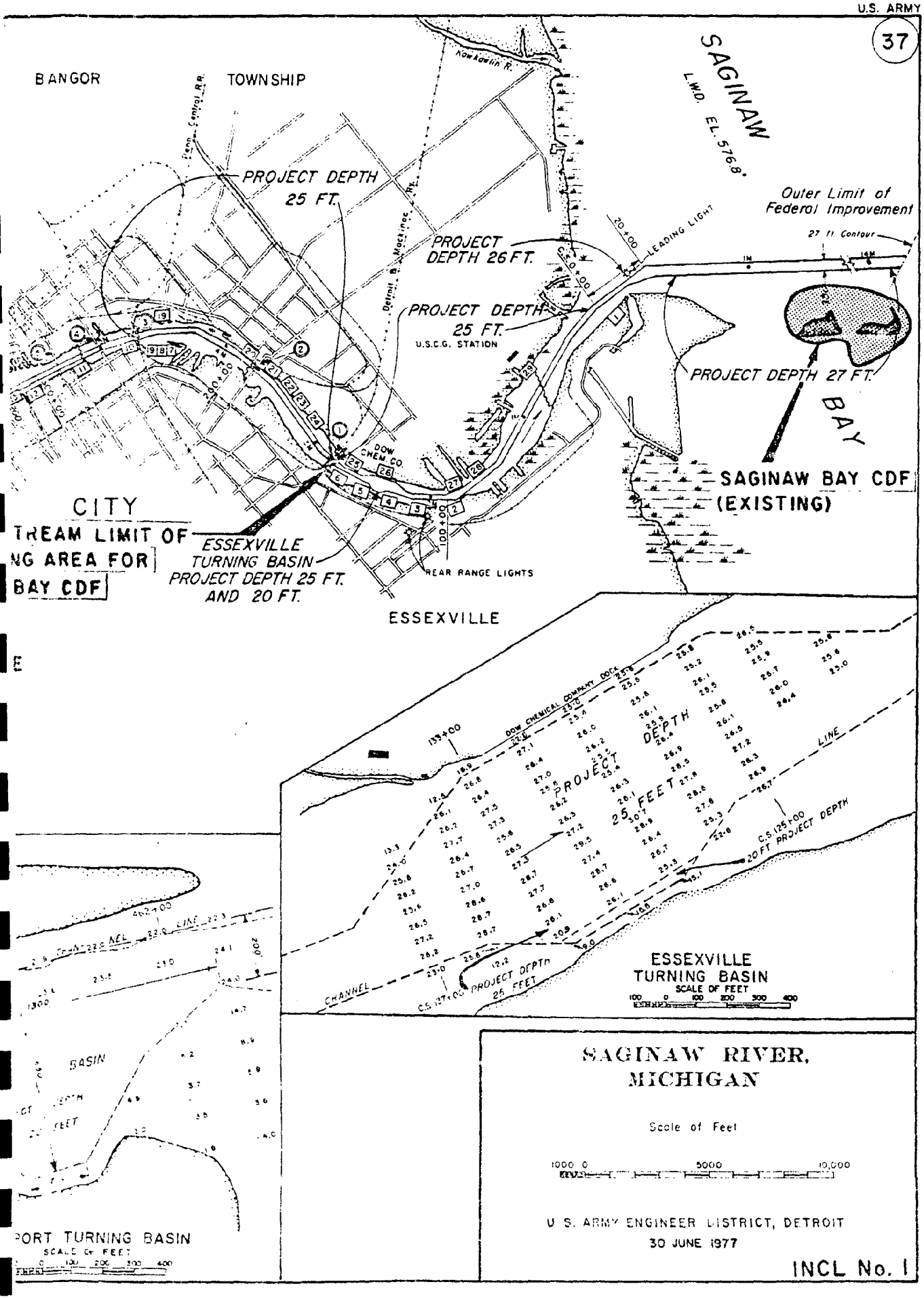


NOTES

Reference numbers taken from the, "The Port of Detroit and ports on The Saginaw River, Michigan", Port Series No.45 Dated 1961
Project depths are referred to International Great Lakes Datum(1955) for Lake Huron, Elevation 576.8 ft. above Mean Water Level (M.W.L.) at .
Hachured areas denote work authorized but not constructed.

(4) Indicates State Routes
(12) Indicates U.S. Routes
(75) Indicates Interstate Routes
Aerial Cables





SAGINAW RIVER, MICHIGAN

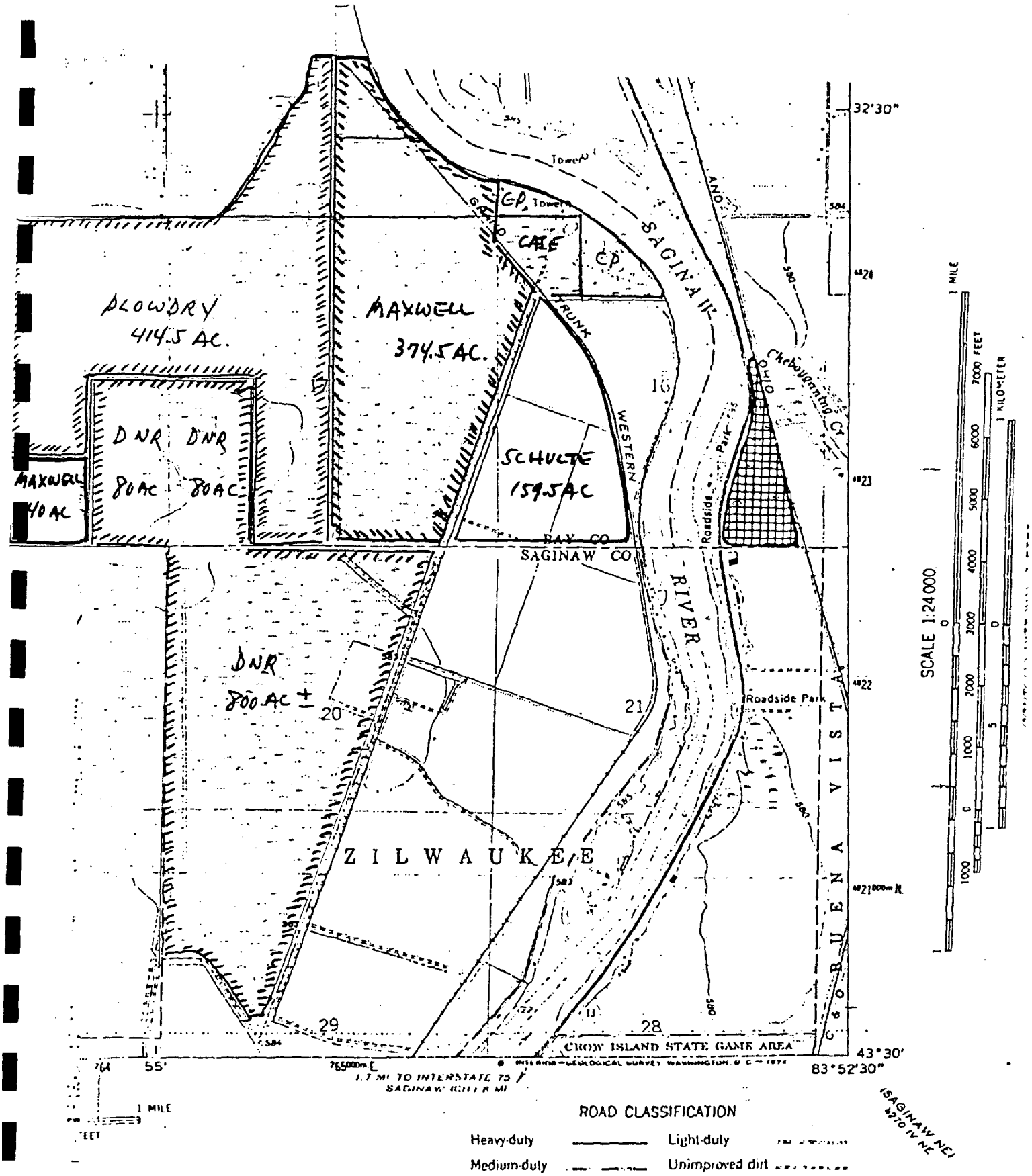
Scale of Feet

1000 0 5000 10,000

U. S. ARMY ENGINEER DISTRICT, DETROIT

30 JUNE 1977

INCL No. 1

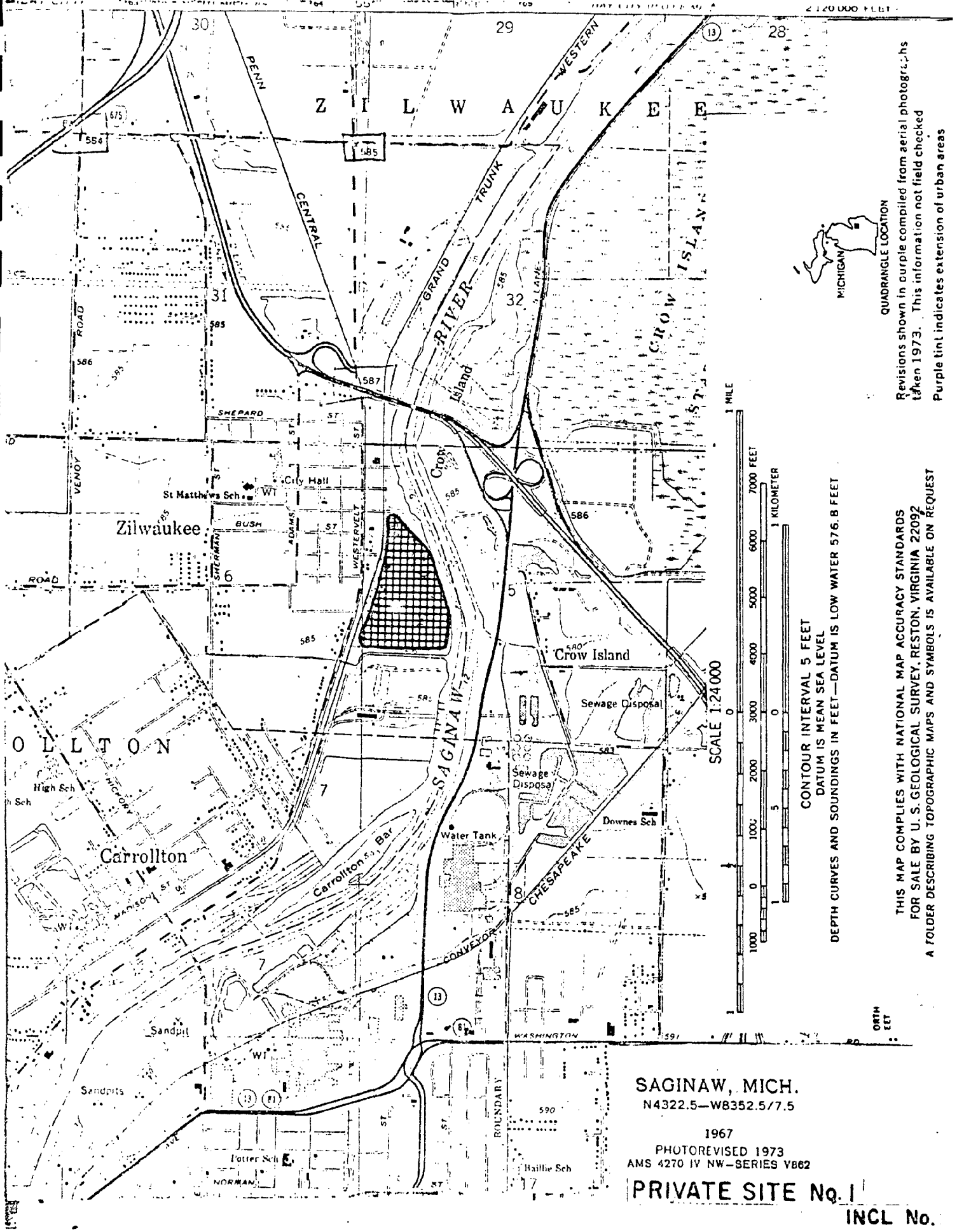


BAY CITY, MICH.

N4330—W8352.5/7.5

1967

PHOTOREVISED 1973



SAGINAW, MICH.
N4322.5—W8352.5/7.5

1967
PHOTOREVISED 1973
AMS 4270 IV NW—SERIES V862

PRIVATE SITE No. 1

INCL No.

Private Site No. 1

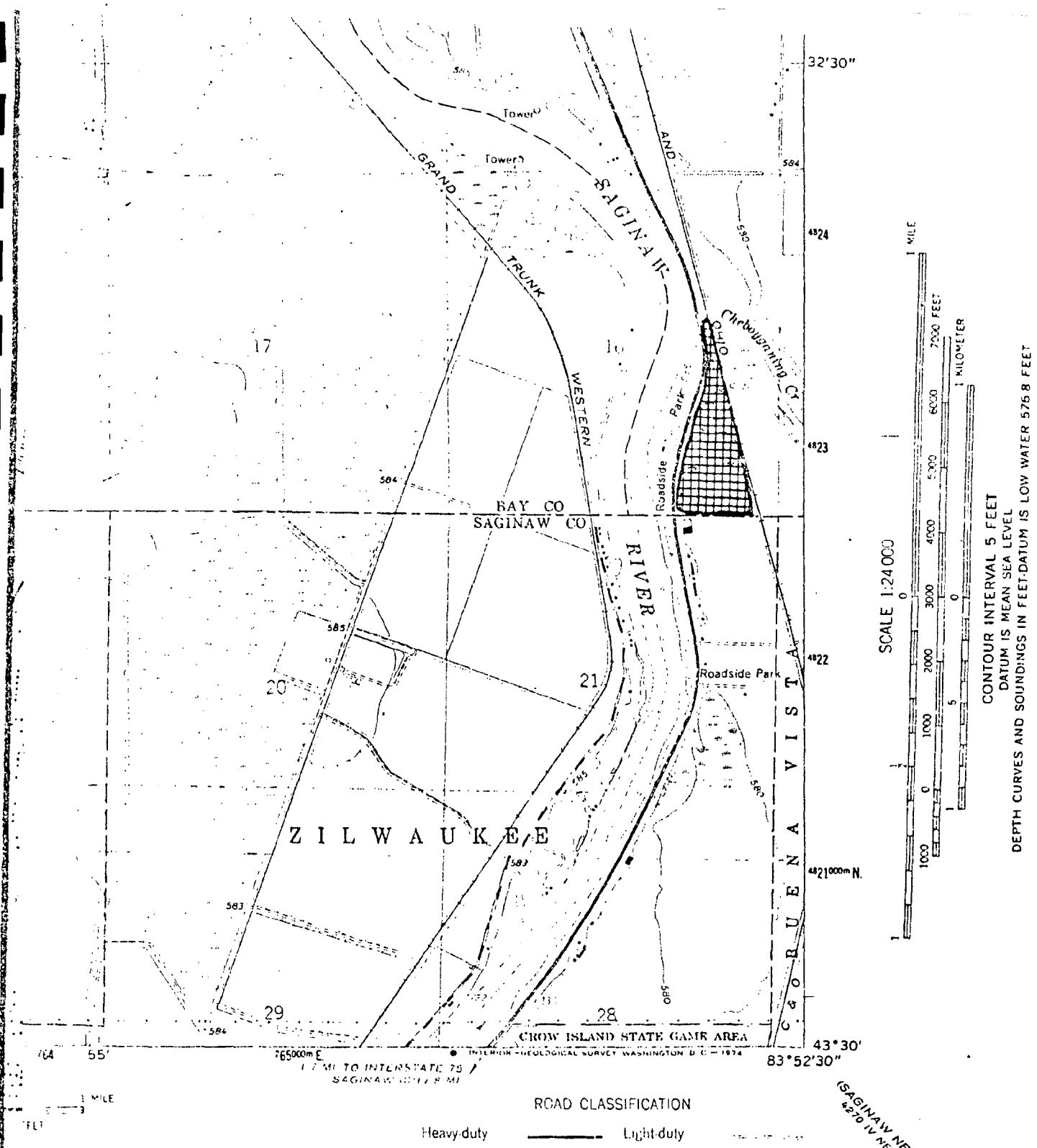
Site - 50 Ac.
Perimeter Length - 6700'
Top of Req'd Dike - 595'
Fill Height - 10'
Estimated Cost to Construct - $1,100,000

DISCUSSION:

The site is totally diked and has a makeshift weir. The owner of the property has a permit to fill the land with dredged material and may be willing to consider temporary transfer of ownership to get the site filled.

The site is in a location which would provide easy access to the dredging area. However, this site is environmentally desirable. The area is primarily wetland with scattered patches of upland. Wetland plants include arrow leaf, arrow arum, cattails, and sedges. It appears to be excellent habitat for waterfowl and shore birds.

The ultimate disposition of this property should be determined before further consideration is given for use as a CDF. If the site would be filled by the owner, use of this environmentally desirable site may be considered prudent if available.



BAY CITY, MICH.
N4330—W8352.5/7.5

1967
PHOTOREVISED 1973
AMS 4271 III SW-SERIES V862

PRIVATE SITE No. 2

INCL No. 2

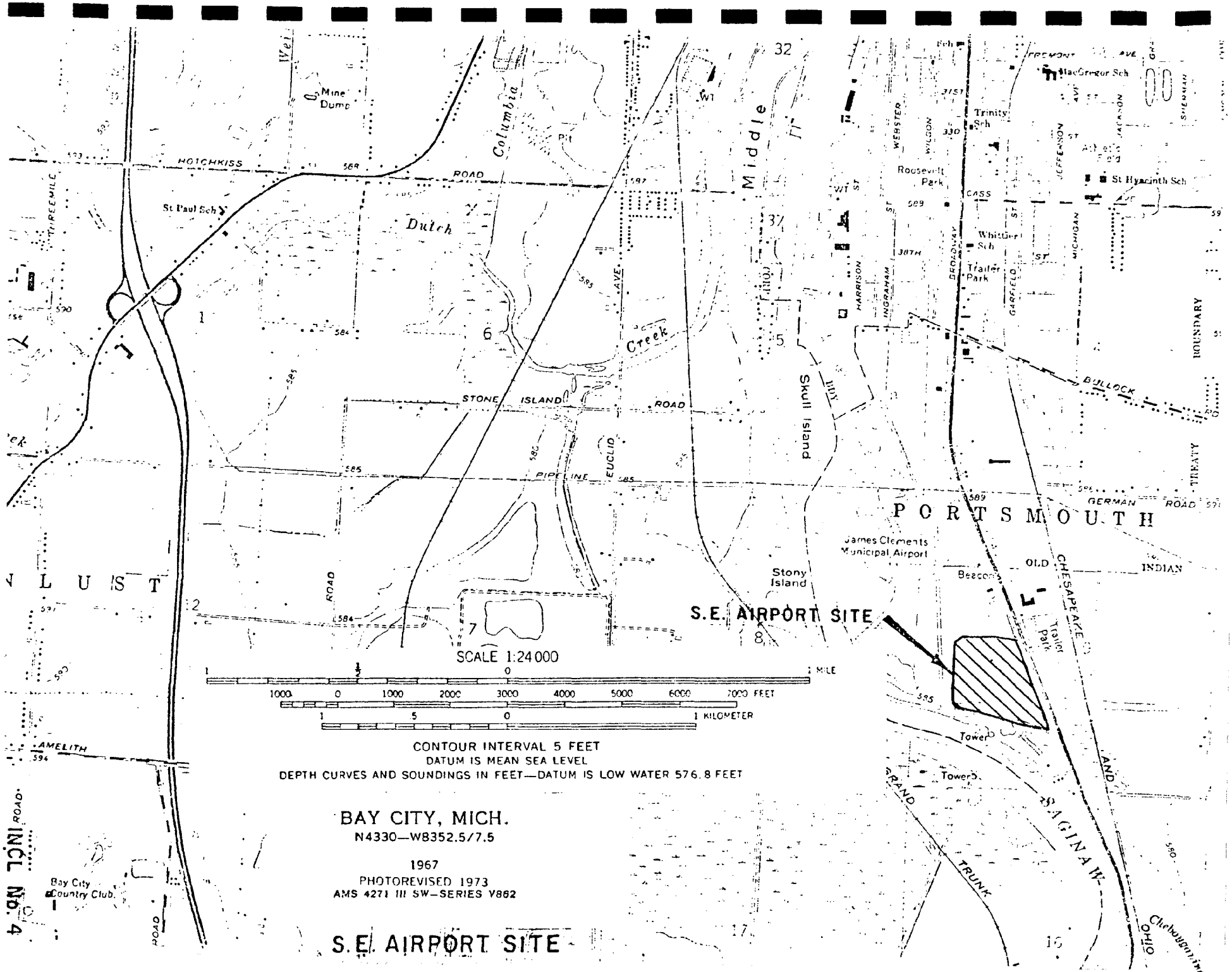
Private Site No. 2

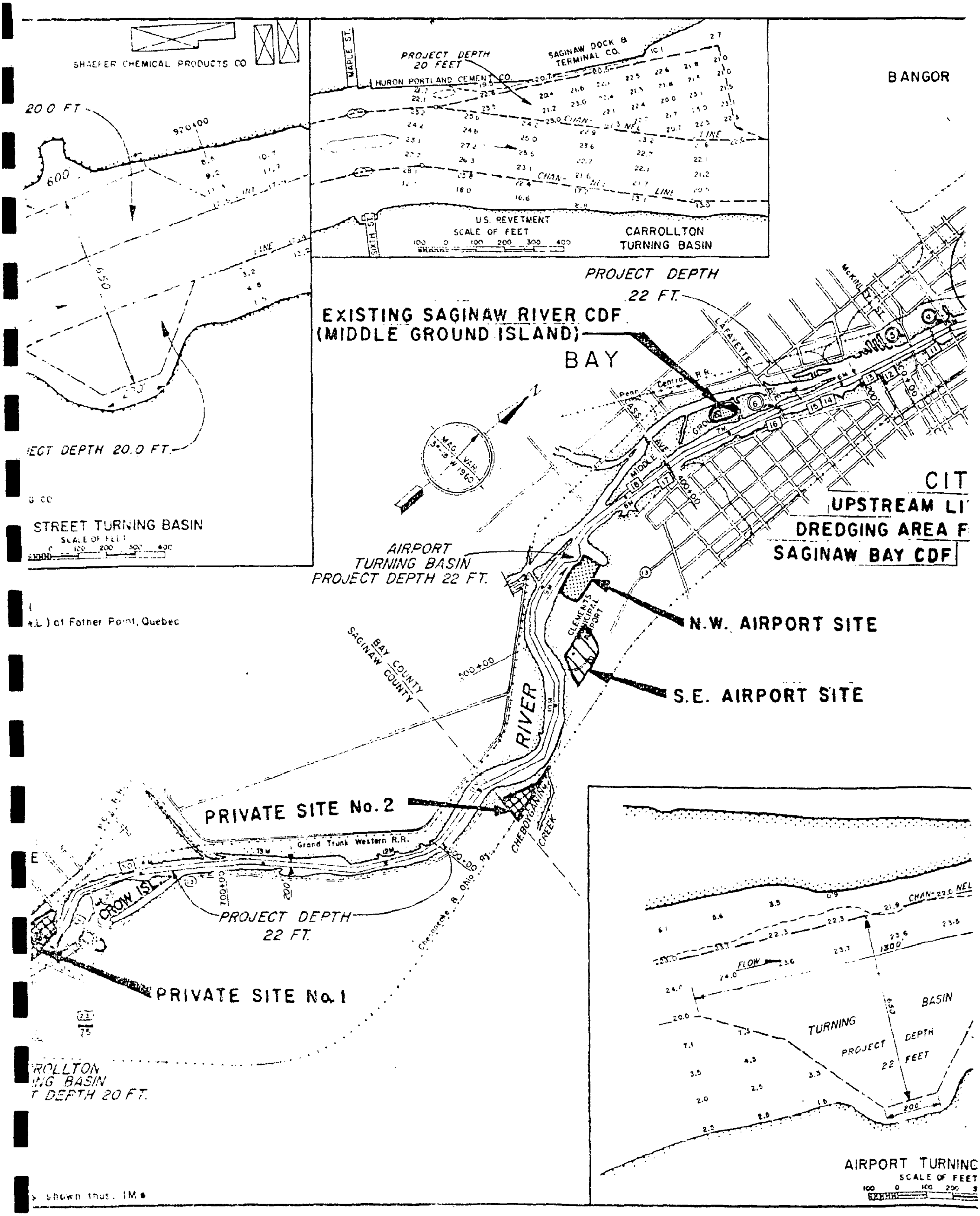
Site - 40 Ac.
Perimeter Length - 7400'
Top of Req'd Dike - 600'
Fill Height - 13'
Estimated Cost to Construct - $1,600,000

DISCUSSION:

This site is naturally, partially diked. The area contains some fill of unknown origin. The owner of the property would like to sell the land, but may be willing to consider a temporary ownership transfer.

Small mounds of dumped fill are scattered throughout the site. The vegetation is dense, composed primarily of grasses and plants typical of recently abandoned fields. Clumps of shrubs and trees such as cottonwood, box elder and willow are scattered throughout the site. The area has several small (less than 1/4 acre) pockets containing wetland vegetation. This habitat would be primarily used by songbirds and small mammals.


HOTCHKISS ROAD
Mine Dump
Columbia
Middle
St Paul Sch
Dutch
Creek
STONE ISLAND ROAD
PIPE LINE
EUCLID AVE
Skull Island
Stony Island
S.E. AIRPORT SITE
Roosevelt Park
Trinity Sch
St Hyacinth Sch
Whittier Sch
Trailer Park
BULLOCK
GERMAN ROAD
PORTSMOUTH
James Clements Municipal Airport
OLD CHESAPEAKE
INDIAN
Tower
Tower
TRUNK
SAGINAW
Bay City Country Club
SCALE 1:24000
1 MILE
1000 FEET
1 KILOMETER
CONTOUR INTERVAL 5 FEET
DATUM IS MEAN SEA LEVEL
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS LOW WATER 576.8 FEET
BAY CITY, MICH.
N4330—W8352.5/7.5
1967
PHOTOREVISED 1973
AMS 4271 III SW—SERIES V862
S.E. AIRPORT SITE


SHAEFER CHEMICAL PRODUCTS CO
20.0 FT
PROJECT DEPTH 20 FEET
SAGINAW DOCK & TERMINAL CO.
HURON PORTLAND CEMENT CO.
MAPLE ST.
SIXTH ST.
U.S. REVETMENT
SCALE OF FEET
CARROLLTON TURNING BASIN
BANGOR
ECT DEPTH 20.0 FT.
STREET TURNING BASIN
PROJECT DEPTH 22 FT.
EXISTING SAGINAW RIVER CDF (MIDDLE GROUND ISLAND)
BAY
MAG. VAR. 3°-15' W 1960
Penn Central R.R.
LAFAYETTE
CIT
UPSTREAM LI
DREDGING AREA F
SAGINAW BAY CDF
AIRPORT TURNING BASIN PROJECT DEPTH 22 FT.
N.W. AIRPORT SITE
CLEMENTS MUNICIPAL AIRPORT
S.E. AIRPORT SITE
.L.) of Fotner Point, Quebec
BAY COUNTY
SAGINAW COUNTY
500+00
RIVER
PRIVATE SITE No. 2
Grand Trunk Western R.R.
CHEBOYGANING CREEK
Chesapeake & Ohio Ry.
CROW ISL.
PROJECT DEPTH 22 FT.
PRIVATE SITE No. 1
ROLLTON
NG BASIN
T DEPTH 20 FT.
FLOW
TURNING BASIN
PROJECT DEPTH 22 FEET
AIRPORT TURNING
SCALE OF FEET
s shown thus: 1M•

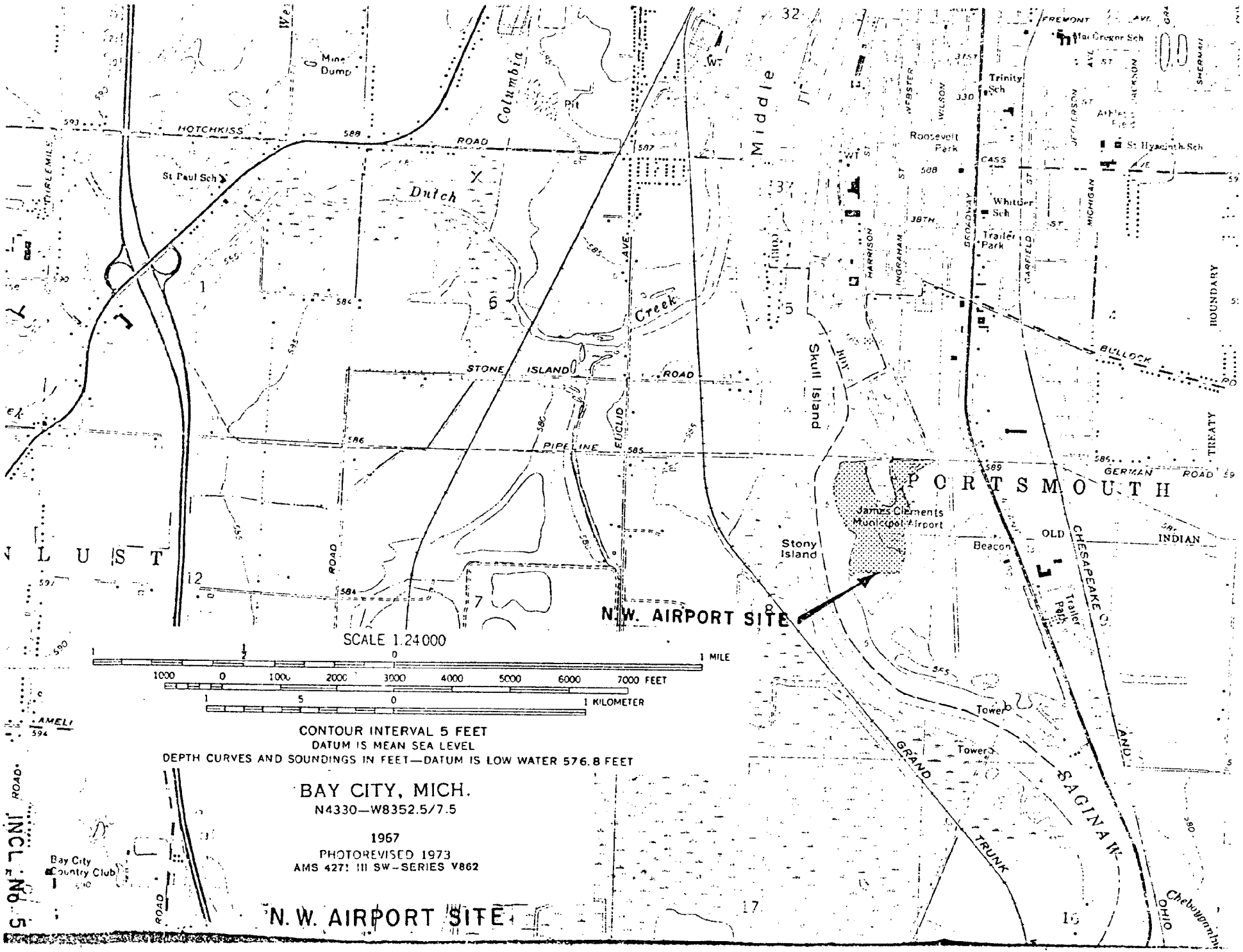
S.E. Airport Site

Site - 40 Ac.
Perimeter Length - 5800'
Top of Req'd Dike - 599'
Fill Height - 17'
Estimated Cost to Construct - $1,900,000

DISCUSSION:

This site is owned by Bay City. The city may be willing to consider using this area for fill, but its first choice is the N.W. airport site.

This site is in a good location and would be acceptable operationally. The area consists mostly of open field with a small (approximately one acre) wetland at the southeast corner. Some shrubs (dogwood) and trees (green ash) exist along the east boundary. From an environmental viewpoint, this would be the best site of the four sites identified to date.


HOTCHKISS ROAD
Mine Dump
Pit
Columbia
Middle
St Paul Sch
Dutch
Creek
STONE ISLAND ROAD
PIPE LINE
EUCLID AVE
Skull Island
Roosevelt Park
Trinity Sch
Whittier Sch
Trailer Park
St Hyacinth Sch
McGregor Sch
BULLOCK
HOUNDARY
TREATY
GERMAN ROAD
PORTSMOUTH
James Clements Municipal Airport
Stony Island
OLD CHESAPEAKE
INDIAN
Beacon
Tower
GRAND TRUNK
SAGINAW
Bay City Country Club
N.W. AIRPORT SITE
N.W. AIRPORT SITE
SCALE 1:24000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 5 FEET
DATUM IS MEAN SEA LEVEL
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS LOW WATER 576.8 FEET
BAY CITY, MICH.
N4330—W8352.5/7.5
1967
PHOTOREVISED 1973
AMS 4271 III SW—SERIES V862

N.W. Airport Site

Site - 45 Ac.
Perimeter Length - 6600'
Top of Req'd Dike - 594'
Fill Height - 15'
Estimated Cost to Construct - $1,900,000

DISCUSSION:

This site is owned by Bay City. The city considers this site to be its first choice as a CDF site. The city wants this area filled as the beginning of the implementation of its master plan for the area.

This site's location and operational value make it desirable for use as a CDF. The area, however, offers good habitat for waterfowl, songbirds, and wildlife. The site is a large marsh dominated by grasses, sedges, and cattails. There are patches of open water. This site is environmentally desirable.

Appendix C. Consultant Letter to Corps

TRANSPORTATION AND
TERA
ECONOMIC RESEARCH ASSOCIATES, INC.
~~SUITE 888, 1901 N. FT. MYER DRIVE, ARLINGTON, VA. 22209~~
~~(703) 524-8440~~ (703) 698-7400
2849 Meadow View Road, Falls Church, Virginia 22042

September 4, 1980

Mr. Neal A. Gehring, Project Manager
Saginaw Dredged Material Disposal Sites
Detroit District NCEED-T
U.S. Army Corps of Engineers
Post Office Box 1027
Detroit, Michigan 48231

Dear Neal:

The notice of the August 28th Public Workshop Session on dredged material disposal sites for the Saginaw Project invited suggestions for additional sites. I am writing to submit the site identified on the attached map. Specifically, it is part of approximately 2,000 acres on the west bank of the river, southwest of Clements Airport. Only three property owners are involved, one of which is the State of Michigan.

TERA, in association with Johnson, Johnson & Roy of Ann Arbor, is in the process of completing a port development study for Bay and Saginaw counties and Bay City. Our study recognized the need for a new and larger mid-river disposal facility to replace the one on Middle Ground, and independent of your efforts, we had identified the site I have submitted as deserving investigation. Our investigations now indicate that it does have merit and deserves consideration.

The site is shown on various maps and photographs as alternately farm land (aerials), under water (National Ocean Survey Chart #14867, and Bay County road map showing it as the "Clements Seaplane Base"), and marshland (Geological Survey quadrangle map). Dikes in the area may account for this alternate inundation and drainage. More significantly, they indicate the character of this land has been changed by man and future use is negotiable.

Our investigations indicate that private interests had considered acquiring most of this area as a game preserve. More recently, the State of Michigan has started a land acquisition program for the purpose of extending the Crow Island State Game Area. We have identified the present ownership in the area, and the preliminary 1981 tax valuations and the relevant maps and tax/ownership information are included as a separate enclosure.

The ownership of the three properties we suggest for consideration are:

Donald Plowdry	629.47 acres
Dirk Maxwell	414.50 acres
State of Michigan	960.00 acres

Neither Maxwell or Plowdry reside on their properties, and this is also the case with adjoining properties that could also be considered: Schulte - 159.5 acres; Case - 24 acres; and, Consumers Power - 58.6 acres.

My preliminary inquiry at Michigan Department of Natural Resources, Wildlife Division, confirmed the state's plans for land acquisition for "Crow Island - West." The state is currently negotiating the purchase of the Maxwell acreage after having refused a fill permit requested by that owner. The properties adjoining Maxwell--Plowdry on the west and Schulte on the east--apparently have been diked and drained and would not be subject to distress sale. It is my understanding that federal funds along with state funds will be used in the Maxwell acquisition, and it is my hope that this may be used to justify multiple use of the property, including spoil disposal.

Our TERA/JJR study estimated the long-term need for a mid-river spoil disposal area based on economic as well as environmental considerations. This assumed that disposal of upriver dredged material in Saginaw Bay, contained or otherwise, would be prohibitively expensive because of the hauling distance; and that a mid-river disposal area of 330 to 700 acres would be required to serve for the foreseeable future. The Maxwell

et.al. properties appear to offer the best solution; and, in behalf of our study's sponsors, I can assure you that we would like to pursue this opportunity with the Corps.

Sincerely,

Richard L. Schultz
Principal Associate

RLS/mlf

Attachment

cc: Mr. Lawrence C. Hall, Coordinator
Saginaw River Port Development Study
c/o Bay County Planning Division
912 North Adams Street
Bay City, Michigan 48706
(517) 892-6011

Mr. Jon B. Mersman
Director of Planning
Saginaw County Metropolitan Planning Commission
111 South Michigan Avenue
Saginaw, Michigan 48602
(517) 790-5284